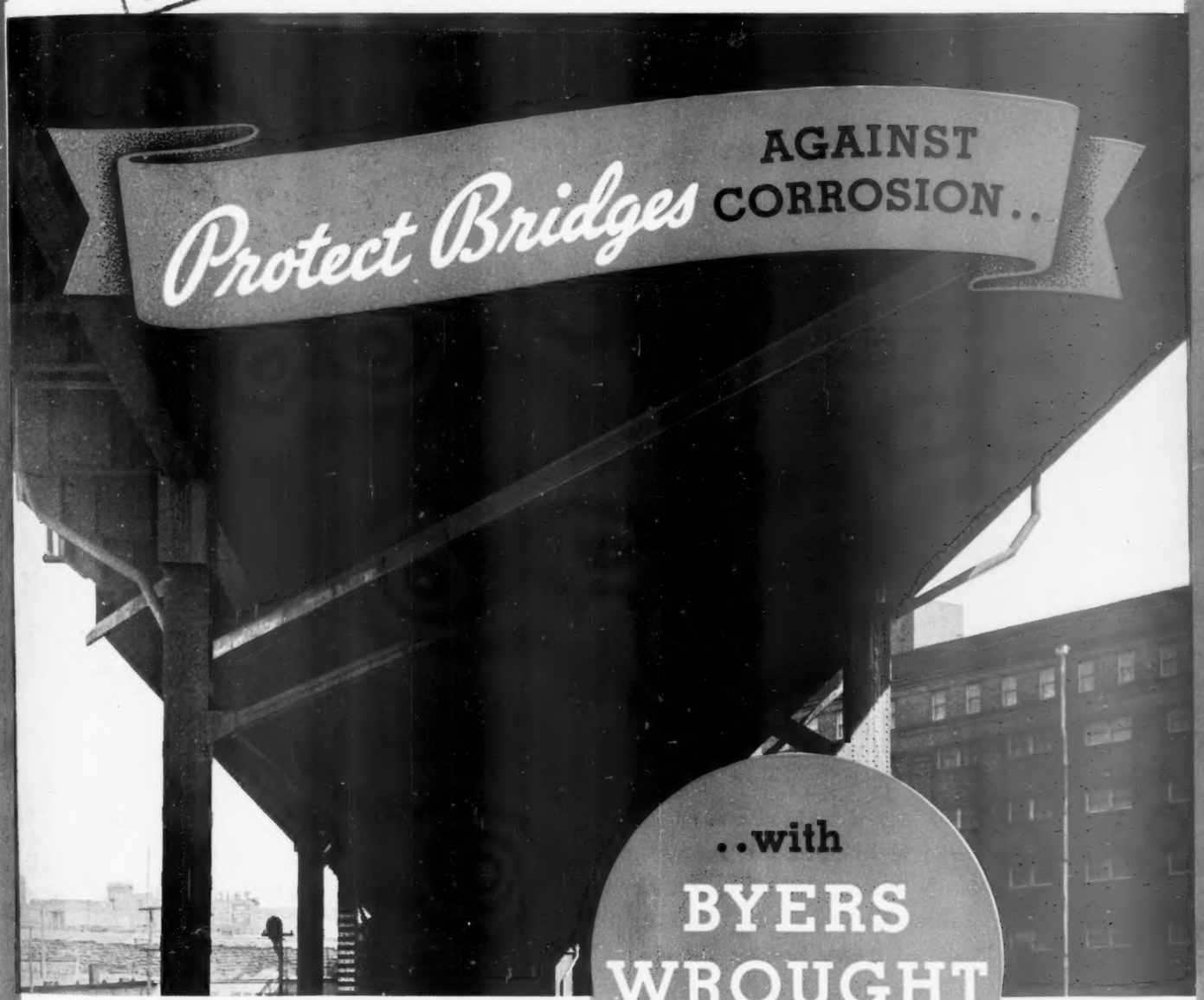
JUNE 5, 1937

Railway Age

Founded in 1856

TRANSPORTATION LIBRARY



● Corrosion attacks bridges in many ways and in many places. Brine drippings play havoc with structural members. That's why many bridges are protected with plates of Byers Wrought Iron. Locomotive blasts attack from below, and that's why Byers Wrought Iron blast plates have come into wide use by many railroads and highways departments.

Illustrated are the blast plates and floor drainage lines of Byers Wrought Iron on the new Intercity Viaduct, Kansas City. The collection boxes are also of Byers Wrought Iron. Other parts of bridges hard to maintain that should be specified wrought iron include decks, bearing plates, pier protection plates, heavy walled conduit, and railings.

Wrought Iron's extensive use for bridge protection is completely discussed and illustrated in a bulletin "Wrought Iron in Bridge Construction," a copy of which we will gladly send. If there is any question regarding other applications of wrought iron in bridge construction, our Engineering Service Department or nearest division office will be glad to give you complete information. A. M. Byers Company. Est. 1864. Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS GENUINE WROUGHT IRON

Tubular and Flat Rolled Products

Specify Byers Genuine Wrought Iron Pipe for corrosive services and Byers Steel Pipe for your other requirements

OXWELD *speeds up rivet removal*

LOW-COST rivet removal can be effected through the use of improved Oxweld* apparatus and procedures. A high-efficiency, low-oxygen-velocity cutting nozzle allows accurate control of the oxy-acetylene flame and avoids burning the sheet adjacent to the rivet hole. With the efficient Oxweld procedure for this work, the rate of rivet removal has been greatly accelerated, and in some cases as much as doubled.

In many railroad shops, this proved economy is rapidly being adopted in all equipment-rebuilding and boiler-alteration programs, and in similar work where sheets must be salvaged and re-used.

This development exemplifies the progressiveness of welding and cutting operations performed under Oxweld supervision. Daily, on Oxweld contract roads, such applications are adding to the savings effected by the oxy-acetylene process and are bringing increased railroad profits.

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation

UCC

New York:
Carbide and Carbon Building

Chicago:
Carbide and Carbon Building

*Trade-Mark

OXWELD RAILROAD SERVICE

1912-1937

A QUARTER OF A CENTURY OF SERVICE
TO THE MAJORITY OF CLASS I RAILROADS

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

Published every Saturday by the Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.

SAMUEL O. DUNN, *Chairman of Board*
HENRY LEE, *President*
LUCIUS B. SHERMAN, *Vice-Pres.*
CECIL R. MILLS, *Vice-Pres.*
ROY V. WRIGHT, *Vice-Pres. and Sec.*
FREDERICK H. THOMPSON, *Vice-Pres.*
ELMER T. HOWSON, *Vice-Pres.*
F. C. KOCH, *Vice-Pres.*
JOHN T. DEMOTT, *Treas.*

CLEVELAND
Terminal Tower

WASHINGTON
1081 National Press Building

SEATTLE
1038 Henry Building

SAN FRANCISCO
111 Sutter Street

LOS ANGELES
Union Bank Building

Editorial Staff
SAMUEL O. DUNN, *Editor*
ROY V. WRIGHT, *Managing Editor*
ELMER T. HOWSON, *Western Editor*

C. B. PECK
W. S. LACHER
ALFRED G. OEHLER
F. W. KRAEGER
E. L. WOODWARD
J. G. LYNE
J. H. DUNN
D. A. STEEL
R. A. DOSTER
H. C. WILCOX
NEAL D. HOWARD
CHARLES LAYNG
GEORGE E. BOYD
WALTER J. TAFT
M. H. DICK
W. J. HARGEST
E. J. PHILLIPS
JOHN H. KING

The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.).

Subscriptions, including 52 regular weekly issues, and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; foreign countries, not including daily editions: 1 year, $8.00; 2 years, $14.00.

Single copies, 25 cents each.

H. E. McCandless, Circulation Manager, 30 Church St., New York, N. Y.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 102 June 5, 1937 No. 23

In This Issue

Southern Pacific Overhauls New Orleans Terminals . . . . . Page 935

Tells how routing of traffic over Mississippi river bridge gives rise to pronounced changes in handling interchange and service to industries.

Centralized Traffic Control on the Missouri Pacific . . 938

An article describing how this road has expedited movements on a 34-mile bottle neck section where 14 trains are bunched in 8 hours.

New York Railroad Club Has "U. S. Steel Night" . . . 944

An abstract of papers which feature research and developments by this Corporation in special steels for car construction, welded track and improved rail manufacture.

EDITORIALS

How Prevent Economic Fascism? 931
Helpful Tips From Railways Abroad 933
1937 Equipment Orders High, Despite May Lull 934
Passenger Stations? 934

GENERAL ARTICLES

Southern Pacific Overhauls New Orleans Terminals 935
Centralized Traffic Control On the Missouri Pacific 938
Protective Section Reports Fewer Robberies 942
New Haven Files Reorganization Plan 943
New York Railroad Club Has "U. S. Steel Night" 944
Claim Agents Meet At Cincinnati 947
Freight Car Loading 948

NEW BOOKS 950

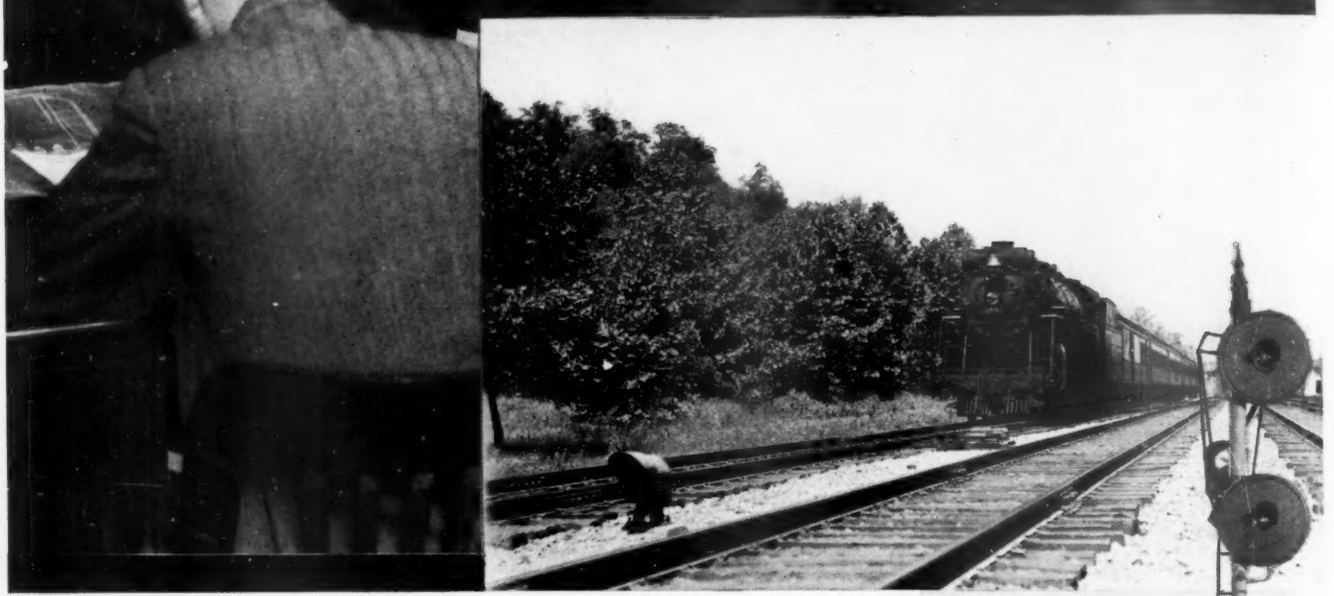
ODDS AND ENDS 950

NEWS 951

FREIGHT OPERATING STATISTICS 965

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

$200,000 PER MINUTE!



A Class I road recently spent one million dollars to save five minutes in running time. In many instances expensive changes are not necessary in order to obtain improved schedules. May we suggest that before you make large expenditures in physical plant and equipment you permit our engineers to estimate how much you can shorten your scheduled running time with existing plant by installing "Union" C.T.C. Their recommendations will also indicate how safety and operating efficiency will be increased and how savings, sufficient to liquidate the investment in a short time, will be effected. Consult our nearest office.

1290

1881 **Union Switch & Signal Co.** 1937

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

RAILWAY AGE

How Prevent Economic Fascism?

The trend in the United States is rapidly and directly toward the establishment of a Fascist government. This trend is being promoted principally by labor leaders and other radicals who frequently and loudly declare themselves opposed to Fascism.

The essential difference between democracy and Fascism is that the former favors a maximum of freedom from government, and the latter a maximum of coercion by government, as respects all the activities of the citizens of a country, especially their economic activities. The government of Russia is called "Communist" because it is supposed to be controlled by and conducted principally in the interest of the masses. The governments of Germany and Italy are called "Fascist" because they are supposed to be controlled by and conducted principally in the interest of the middle class. But they are essentially alike in that they all control every economic activity of their people, and to make this possible have suppressed all freedom of political activity.

Labor leaders and other radicals in the United States are using or promoting the use of two forms of coercion. The labor leaders are using ordinary walk-out strikes and picketing to force employees to join the unions and employers to recognize and deal with them, and also "sit-down" strikes to coerce employers. They and other radicals are also using political pressure on Congress in behalf of legislation to force employers to shorten working hours and pay higher wages.

The Advance Toward Fascism

In a civilized country government alone is recognized as having authority to exercise force. Private organizations that resort to its use, and governments that do not stop its use, invite other private organizations to resort to it. Also, when any class attempts to control government for the purpose of using it in its own interest at the expense of other classes, it invites these other classes also to seek control of government for the purpose of using it in their interest. When a government has taken complete control of production, distribution and exchange economic freedom has been destroyed and economic Fascism has been established. In order to maintain and exercise such complete economic control government must prevent all court decisions and political agitation or action that will interfere with it. The maintenance of economic Fascism requires the establishment of political Fascism—that is, the destruction of all freedom of political discussion and action.

We are far advanced toward the establishment of government control of production, distribution and exchange—that is, of economic Fascism. Further legislation to complete its establishment is being promoted, such as legislation to regulate hours of work, wages, prices, trade practices, farm output, profits and capital investment. The purpose of this movement to use government to establish economic Fascism is to change the distribution of wealth and income, especially the latter. The major premise of its economic reasoning is that the principal cause of a large part of the population not having enough necessities, comforts and luxuries is that it does not get its fair share of the total national income, and that enough can be taken from the larger-than-average incomes and added to the smaller-than-average incomes to enable the recipients of the latter to enjoy an "abundant life."

How Provide An "Abundant Life"?

No fair person can be opposed to any policy that actually will help to increase the *real* incomes and pur-

chasing power of the masses even though it may involve a substantial reduction of both economic and political freedom. But are the policies being used and promoted by labor leaders and radicals actually adapted to increasing the *real* incomes and purchasing power of the masses? The *Railway Age* is opposed to them because it sincerely believes that they tend not only to destroy economic and political freedom in the United States, but to cause reduction of the *real* income and purchasing power of all classes, and especially of the masses.

The fundamental trouble with all these policies is that they are predicated on an economic assumption of vital importance which, although widely accepted among all classes, even including business men, is absolutely false, and the falsity of which is so easily demonstrable and has been so often demonstrated that it seems amazing it is still accepted by anybody claiming to have the slightest intelligence. This is the assumption already mentioned—viz., that all that is necessary to provide an "abundant life for all" is radically to change the division of the total national income.

The facts repeatedly have been presented in these columns, but evidently they must be presented over and over again with tireless reiteration by everybody who knows them, in every available publication and from every available rostrum, if any headway is to be made against the tide that is sweeping the American economic and political systems toward destruction. The *total* income of the people of the United States last year is estimated by the Department of Commerce to have been about 60 billion dollars. This, when divided between more than 30 million families, provided an *average income per family of only about $1,900.* Obviously, there has never been, is not and never can be any way to divide a total *national* income of 60 billion dollars, or even the 1929 national income of over 80 billion dollars, between over 30 million families so that it will provide an "abundant life for all."

Increased Production the Only Means

To realize the ideal of $3,600 a year for every family stated by William Green, president of the American Federation of Labor, it would be necessary, on the basis of the prices of 1936, to double the *production* of 1936 even if all families were to receive the same income. If many families were to continue to receive much more than the average it would be necessary, in order to provide each family with a minimum of $3,600 a year, to increase total production much more than 100 per cent—in other words, to increase the total annual national income to *much more than 120 billion dollars.*

Obviously, then, the most important problem with which we are confronted, in considering how to provide an "abundant life" for all, and especially for the masses, is one that no real or self-constituted leader and spokesman of the masses ever even mentions—viz., *the problem of increasing production,* and especially of increasing production of consumable necessities, comforts and luxuries, at costs that will enable the masses to buy them. There are available three ways of doing this. One is to put the entire employable population to work. But the Brookings Institution has estimated that, on the basis of present hours of work, this would increase production only about 20 per cent. Another way is to work longer hours. But labor leaders are advocating government and other action further to reduce working hours—presumably to give the workers more leisure to enjoy things that they *could not buy because they would not be produced.*

How Increase Production?

A third way, and the only adequate way, to increase production is to install more and better machinery and improve methods, thereby increasing the average output of each worker per hour worked. But the installation of more and better machinery requires increased investment of capital. It would require an enormous additional investment of capital in the country's productive and distributive plant to increase production and distribution enough to provide an abundant life for all. The amount of capital available for investment depends upon the amounts of profits allowed to be earned and retained by business. And the "planned economy" policies now in favor aim, first, to restrict the profits earned, and, second, to seize a large and increasing part of them by confiscatory taxation.

In brief, the government economic policies now in favor, and already largely in effect, are policies adapted to restricting production, and therefore the very negation of the policies needed to help provide an abundant life, especially for the masses. There can be no question in the mind of any real economist that N.R.A. halted recovery throughout the two years it was in effect, or that the recovery that has occurred since it was destroyed was made possible by its destruction; but legislation now being promoted respecting working hours, wages, trade practices, prices and for other kinds of regulation of industry would have the same restrictive effects on production as N.R.A.

Force—or the Democratic Method?

There are available only two ways of resisting the efforts to complete radical control of government in the United States, and the economic Fascism, with its policies of restricted production and of scarcity, which is its insane objective. The radicals are resorting to organized force, and the middle class can resort to organized counter-force, as it did in Italy and Germany, as it is now doing in Spain, and as it has repeatedly threatened to do in France. The alternative is resort to the democratic method of organized *political* opposi-

tion. Many business associations are now using propaganda in an endeavor to educate the public regarding the real issues involved. This may be helpful, especially in the cases of some industries, but it will never turn back the tide of radicalism. The radicals are using not only force, but also political methods, to accomplish their purposes, and those who are opposed to them can never beat them as long as they refrain from opposing them either with force or with political methods.

The only peaceful means by which radicalism and its policies of governmental and economic Fascism can be beaten is by the organization of a political party committed to economic policies favorable both to a fair distribution of the national income and a great and continuous increase in production of all the commodities that actually constitute that income. Business must support such a party, but it must be led by politicians, because only politicians understand politics. Fortunately, there are now available plenty of liberal-conservative statesmen—most of them Democrats—such as Senators Glass and Byrd of Virginia, Congressman Pettengill of Indiana, Senator Borah of Idaho, Senator Burke of Nebraska, Senator Bailey of North Carolina, who could afford competent leadership.

Radicalism Organized—Liberal-Conservatism Unorganized

The governmental and economic policies favored should be such as to enlist the small business men of the country, the farmers, many intelligent skilled workmen and all the millions who voted against the New Deal last fall because opposed to radicalism on principle. This means that some of the policies advocated, such as opposition to monopolies and monopoly practices, and probably to protective tariffs, would be distasteful to financiers and managers of "big business"; but "big business" will have to choose in future between radicalism that, by incorporating it in a Fascist state, would confiscate most or all of its profits, and liberal-conservatism that would preserve the American political and economic system and give all producers and distributors opportunity to prosper under a regime of competition and unrestricted and increasing production.

The forces of radicalism are organized and aggressive and are advancing toward their goal of class control of government for the permanent establishment of economic Fascism in the supposed interest of the masses, but actually and directly contrary to the interest of all classes, and especially of the masses. The forces of liberal-conservatism are organized into various business associations that are pursuing numerous narrowly selfish purposes without any fundamental economic principles in common; and these forces in general have actually no political organization whatever, but in public life are represented by men wearing entirely different partisan labels. If the establishment of economic Fascism in this country is to be prevented peacefully, this must be done by *political* methods; and this means that those opposed to it must unite in one political party which will stand and fight for the principles of political and economic *freedom* against the principles of political and economic *coercion*.

Helpful Tips from Railways Abroad

Naturally, as the country possessing the greatest railroad mileage in the world, we are proud of our achievements in developing so vast and efficient a transportation machine. Yet, there is undoubtedly much that we can learn, which will be helpful in making further progress, from the observation of railroad equipment, facilities and practices in other countries. We welcome railroad representatives from other lands and take pride in showing them our accomplishments, but unfortunately we send very few of our own representatives abroad to study foreign railway practices. Are we not missing much by not so doing?

A study of foreign railways, for instance, indicates that in most countries they are confronted with much the same problems from competition of highway, airway and waterway carriers as we are in the United States. What are they doing to overcome this handicap and how are they co-ordinating the various types of common carriers to make the most efficient and effective transportation machine? Cannot some of the improvements that the foreign railways are making in the technical departments be applied in part or in principle, at least, to solve the difficulties American railroads confront in these same departments?

Possibly the advantage of exchanging information by personal visits of properly qualified representatives can well be considered even within much narrower limits. In the early days there was a constant shifting about of employees on American railroads. The boomer of that day, however, has practically disappeared, and today men enter the service of the railroad with no thought or intention of transferring elsewhere in the future. Seniority has become an important factor in our calculations. In this process, however, have we not lost much by narrowing the observation, experience and training of our workers and supervisors, using the latter term in its broadest sense of including all those in supervisory positions, from the foreman to the head executive? Should we not be more active in encouraging visits of these men to other districts or other roads, sending abroad a few of those specially well qualified to profit from the experience?

The Victorian State Railways of Australia have found it advantageous to send their better qualified shop apprentices each year to visit the railways of the

neighboring states, New South Wales and South Australia. Moreover, when the apprentices have served their time they are encouraged to travel abroad to widen their knowledge and experience.

Are we in this country so superior that we can afford to neglect the opportunity of sending more of our specially qualified railway representatives abroad to profit from their observations and study of foreign railway practices?

1937 Equipment Orders High, Despite May Lull

While domestic equipment orders reported in issues of the *Railway Age* for May (excepting May 1 orders reported in the April compilation) show a marked reduction from the totals of each preceding month of the year in all three categories—locomotives, freight cars and passenger-train cars,—the aggregate orders for the entire five months of 1937 remain unchallenged by the records of the corresponding periods of the years 1931 to 1936, inclusive. The export trade shows no orders for any class in May reports.

The 14 locomotives reported in May, of which all but one are Diesel-electric powered, bring the 1937 record to 206 units, which figure surpasses the 12-months total of 1931 to 1935, inclusive, and is considerably more than the 98 motive power units ordered in the corresponding five months of 1936. Indeed, it stands at a sizeable margin over the total of the same period in 1928, a pre-depression year. In addition, there are on inquiry 2 steam, 6 to 10 electric, and 11 Diesel-electric locomotives.

The May lull notwithstanding, 1937 so far boasts a remarkable record for freight car orders. While the May list of 3,903 cars is less than half the number of any month this year, except March when 6,200 were ordered, it brings the orders for the five months to 44,562 cars, a record which surpasses the 12-month totals of the years 1931 to 1935, inclusive. It exceeds the orders for the corresponding five months of 1926 and 1927 by a fair margin, more than doubles 1928's score for the same period, and compares well with the 53,260 cars purchased during the same period of 1929, which year, in its entirety, saw orders placed for 111,-218 cars, a high record and beaten in its decade by 1924 and 1922 only. Inquiries for 640 freight cars were also outstanding at the close of May.

It is in the passenger-train car category that May's reports of equipment orders are most disappointing, as there were contracts for only 8 cars, in two lots of 4 each, a diminutive figure beside the 154 of February and the 162 of March. Nevertheless it is a far healthier sign than the "None" recorded for May, 1936. The combined orders of the first five months of this year, 466, remain in excess of the entire 12-month totals of the years 1931 and through 1936. In addition, the purchase of 19 more passenger-units was contemplated by the carriers at the close of the month.

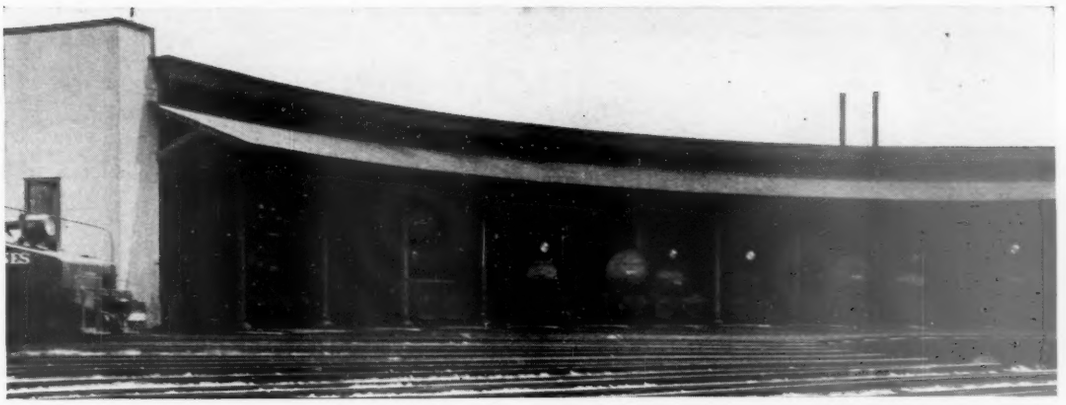
The recent declines of locomotive and freight car orders undoubtedly are principally due to belief of railway managements that there is now on order about as much equipment as can be delivered in time to help handle the peak traffic next fall. There is no reason to doubt that, as has repeatedly been predicted in these columns, the peak freight traffic of 1937 will exceed that of 1936 by 15 per cent, and there is still reason to fear there will be a shortage of serviceable equipment next fall. Car loadings in the first twenty weeks of the year were 15.2 per cent greater than in 1936 and in April and May averaged 15.4 per cent greater. It may confidently be predicted that if traffic and net operating income continue increasing at the present rates there will soon be a resumption of equipment buying on a large scale.

Passenger Stations?

Next to safety, comfort and adequacy of transportation, no factor exerts a more direct influence upon the traveling public than the appearance of and general atmosphere within and about railway passenger stations. That this fact is appreciated by railway managements is evidenced in nearly every large passenger station that has been built. Yet there appears to be a widespread feeling among those who live in community-conscious suburban or rural territories that little or no regard is given to other than the "big pay" points.

A few railways have long maintained an enviable pride in their passenger stations, both large and small, and in the appearance of their properties generally, particularly in the vicinity of passenger stations. Unfortunately, this cannot be said of all railways, and while this condition prevails on many roads because of unfavorable economic conditions, it prevails on others primarily because of lack of management attention to the small station problem.

During the six years 1930 to 1935 the railways reduced their expenditures for the upkeep of passenger stations and office buildings more than $100,000,000 as compared with the amount spent during the six-year period immediately preceding. Road after road made reductions of 20 to almost 100 per cent in building maintenance. There has been more than ample justification for this retrenchment in the general upkeep of railway buildings, including passenger stations. However, in the face of the complaints which are now being broadcast with regard to the condition of many passenger stations, it would appear advisable for the railways to investigate this situation to ascertain that the good will which is being created in one direction is not being nullified in another.



The Roundhouse Was Constructed Largely of Material Salvaged from Old Structures

Southern Pacific Overhauls New Orleans Terminals

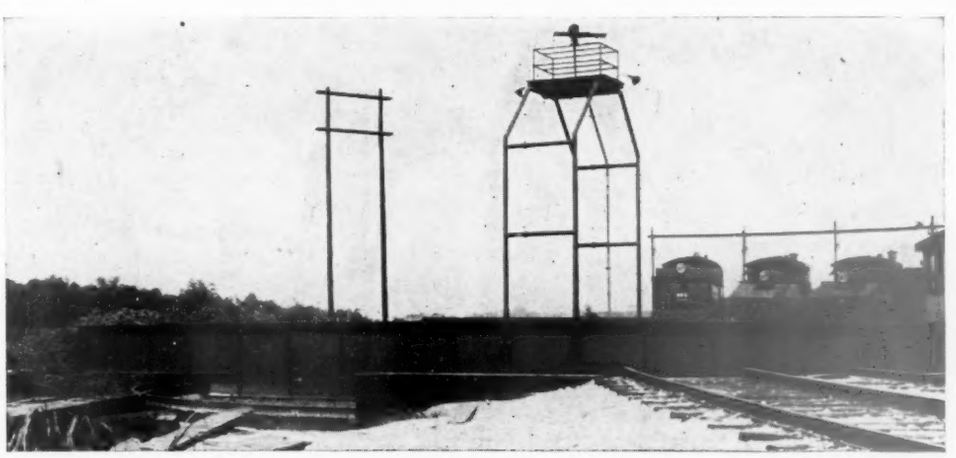
Routing of traffic over Mississippi river bridge gives rise to pronounced changes in handling interchange and service to industries

COMPLETION of the Huey Long bridge across the Mississippi river at New Orleans, La., has removed a formidable barrier to the free interchange of rail traffic between the lines on the east side of the river and the Texas & New Orleans (Southern Pacific, Texas and Louisiana lines), one of the three western railroads that have eastern terminals at the crescent city. However, few railway men are aware of the marked changes in terminal operation, service to industries and interchange, as well as alterations in the terminal facilities, that were necessary in order that the Texas & New Orleans could avail itself fully of the advantages to be realized by the use of the bridge crossing.

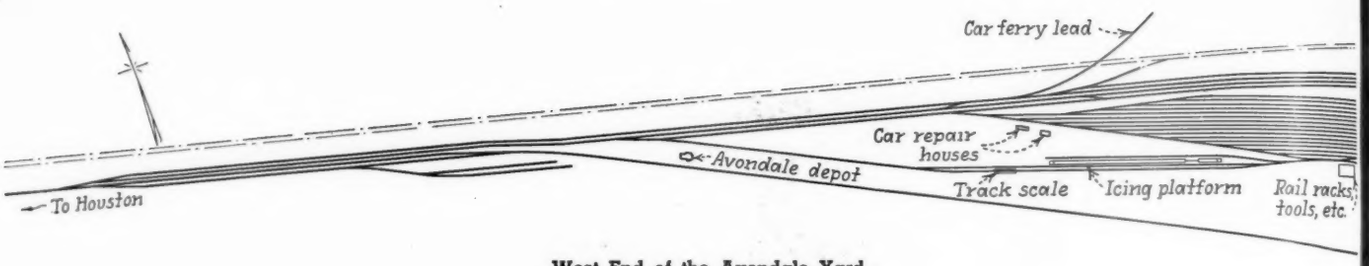
Briefly, the entire physical plant of the T. & N. O. at New Orleans had been developed with a view to the co-ordination of rail movements with ferry transfers across the river. Therefore although the movement of trains across the river on a bridge rather than ferries, greatly expedited this trans-river movement, it gave rise to entirely new routings and these made it necessary to provide new terminal facilities, abandon others, and institute appreciable modifications in the utilization of still other portions of the plant.

Influence of the River

Because of the importance of New Orleans as a maritime port, nearly all of the east side railroads entering the terminal area developed trackage along or adjacent to the river. Similarly, the line of the Texas & New Orleans was located along the opposite bank for most of the distance of 12 miles from Avondale to Algiers, where the principal terminal and docks, as well as car and locomotive shops were established. In addition, the road developed terminal trackage extending over a distance of about two miles along the New Orleans side of the river, adjacent to the business center of the city,



Cantilever Extensions Increased the Length of an Old Turntable to 90 Ft.



West End of the Avondale Yard

for the purpose of serving a local freight station, the Southern Pacific Steamship Lines (Morgan Line) docks, and a number of important industries, and of effecting direct interchange with the Illinois Central, the Louisville & Nashville and the New Orleans & North Eastern

East End of the Classification Tracks—Repair Tracks at the Left

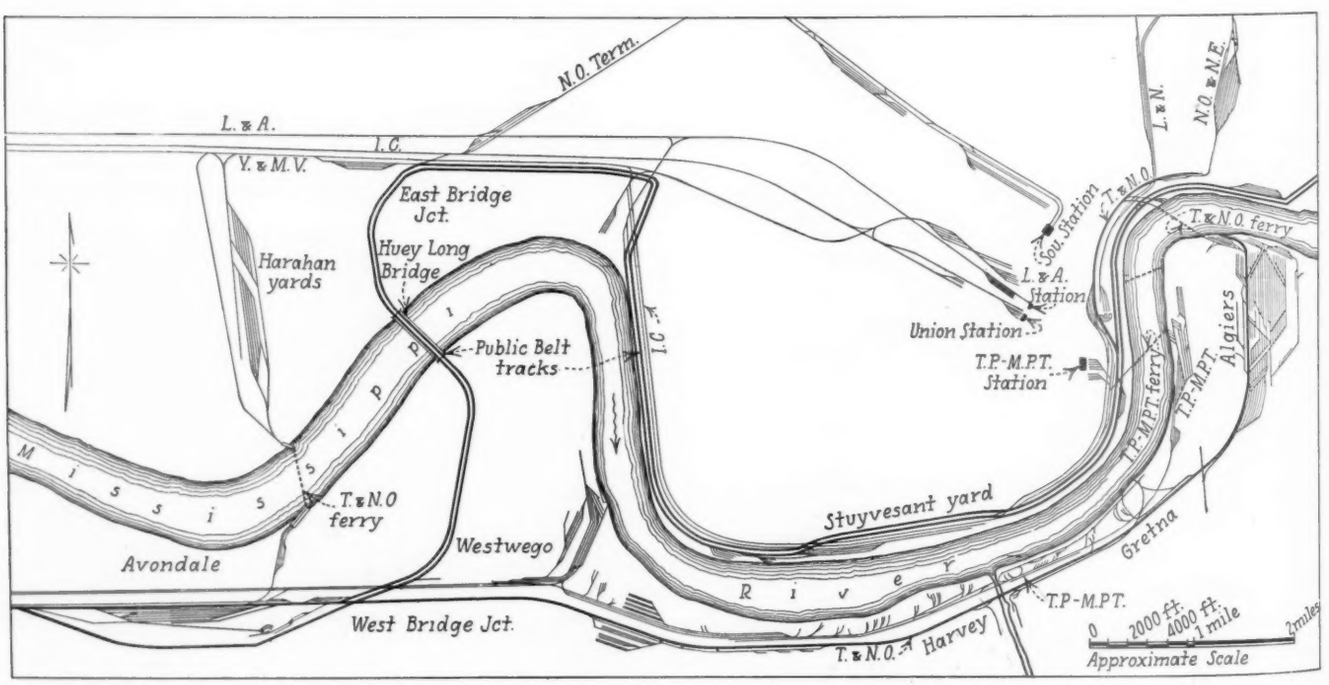
(Southern), as well as the city-owned terminal railroad known as the New Orleans Public Belt. Access to this terminal property, which is located almost opposite the Algiers terminal, was maintained by a car ferry service.

Texas & New Orleans passenger trains enter and leave the Union Station at New Orleans over the Illinois Central, and until the completion of the new bridge, were moved across the river on a ferry at Avondale. For a number of years, this ferry was used also for freight interchange with the Illinois Central, but following the abandonment of that road's Harahan yard, opposite Avondale, about six years ago, freight interchange at that point was discontinued.

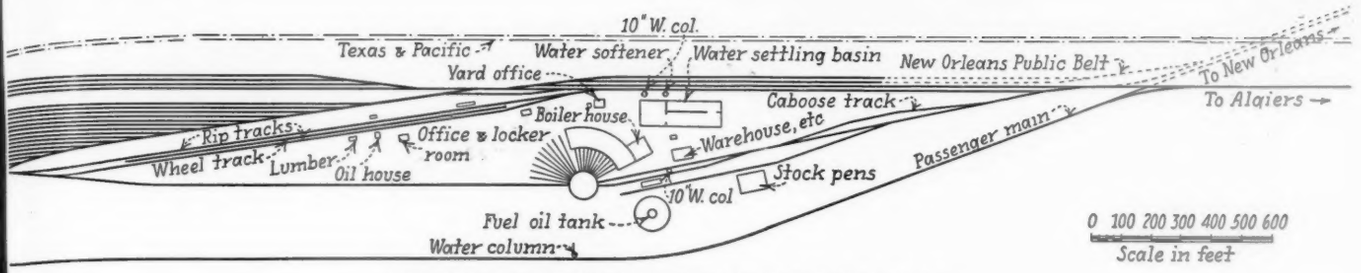
Bridge Crossing at Avondale

As the bridge is located about two miles downstream from the Avondale ferry crossing and about 11 miles upstream from the Algiers ferry, the use of the bridge as a crossing entailed a complete recasting of the interchange connections, as well as the routing to the T. & N. O. terminals on the New Orleans side of the river. The bridge, which accommodates highway vehicles as well as railway trains, was built by the New Orleans Public Belt with the proceeds from the sale of its bonds and those of the Louisiana State Highway Department, the T. & N. O. agreeing to make payments to retire all of the Public Belt Railroad bonds, including interest.

As far as the railroad deck of the bridge is concerned, the river crossing is virtually an extension of the New Orleans Public Belt to a connection with the Texas & New Orleans at West Bridge Junction, about a mile from Avondale, thus affording the T. & N. O. a continuous rail route across the bridge and, via the Public Belt's line along the river front on the New Orleans side,



Railway Map of the New Orleans Terminal Area—Main Tracks of the Texas & New Orleans Public Belt Shown in Heavy Lines



The Engine Terminal Is Located at the East End of the Yard

to the east side terminals. At East Bridge Junction direct connection is made with the Illinois Central and also with the New Orleans Terminal, a belt line controlled by the Southern, and this line is used for interchange with that road, the Louisiana & Arkansas, the Louisville & Nashville, and the Gulf, Mobile & Northern.

From 180 to 400 carloads of freight enter or leave the New Orleans Terminal area over the Texas & New

A Rear View of the Roundhouse

Orleans daily, and of this total two-thirds has origin or destination on the east side of the river, the other third coming from or going to the industrial territory located along the west bank of the river between Avondale and Algiers. With the new routing of freight to the east side, it became evident that the logical place for makeup and breakup of Texas & New Orleans trains is west of West Bridge Junction, since a classification yard at that point can be used to separate cars destined for points on the west side line as well as for making up the groupings for various destinations on the east side, and obviously the location is equally convenient for making up outbound trains. As a consequence, a new terminal was constructed at Avondale, while part of the trackage at Algiers was retained for the service to docks, shops and local industries.

Under the interchange agreements, the T. & N. O. delivers cars over the Public Belt or the New Orleans Terminal to the yards of the east side railroads, while these railroads, in turn, deliver outbound cars to the T. & N. O. at East Bridge Junction. To accommodate this outbound movement, the latter road constructed a small yard at that point for the receipt of these outbound interchange cars. This yard provides trackage for about 300 cars.

Avondale Yard

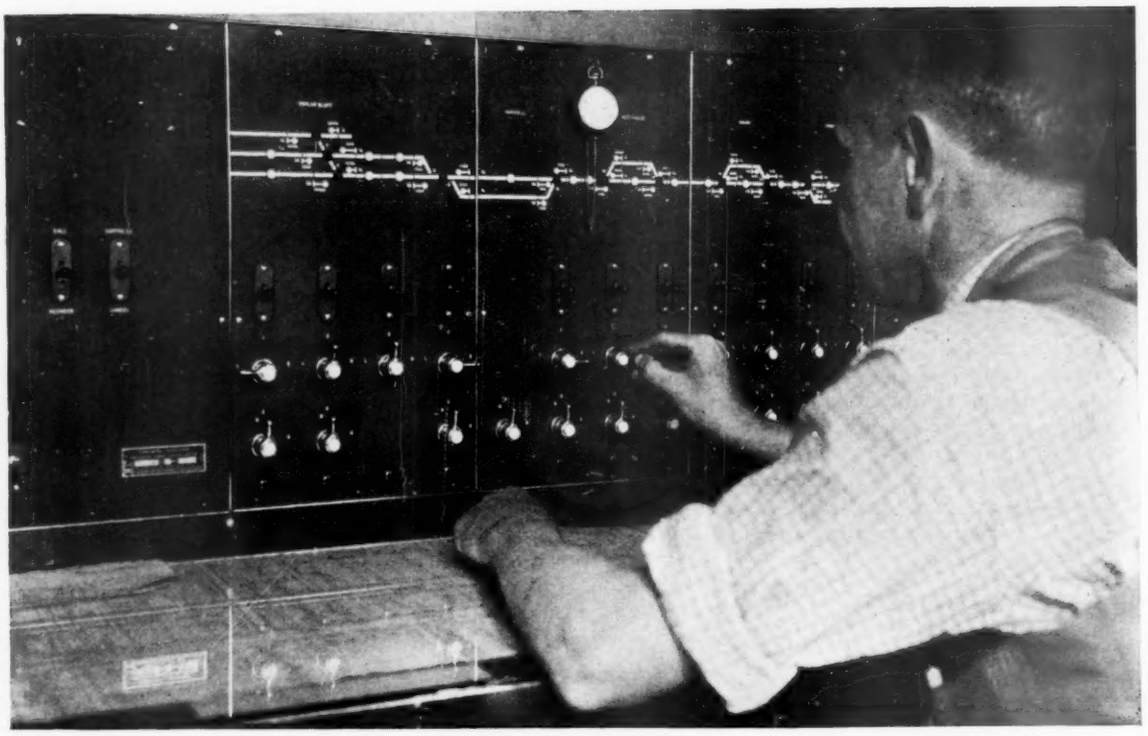
The Avondale yard consists of a flat classification yard with a capacity of 600 cars, together with the necessary accessory features in the way of arrival, departure, running, tail, drill and repair tracks; a small re-icing station, embracing an icing platform serving two tracks which will hold seven refrigerator cars; a scale track and an engine terminal. The yard is located mainly on the south side of the old main track, which was retained as a receiving track throughout the length of the yard, while a new main track for passenger trains was constructed around the yard on the south. This passenger main track connects with the Public Belt tracks at West Bridge Junction, where they cross the old line to Algiers as well as the adjacent parallel main line of the Texas & Pacific. These crossings are protected by an interlocking plant which also controls the lead into the yard from the Public Belt and the lead to two set-out tracks on which Public Belt transfer crews deliver cars to the Texas & New Orleans. As will be observed on the yard layout, the transfer trains can enter these two tracks from the bridge approach without fouling or using the lead to the T. & N. O. yard.

The classification yard has 20 tracks from 444 to 2,621 ft. long, spaced 13 ft. center to center, and with short curves at each end so that No. 9 frogs could be used in ladder tracks laid out on a No. 7 angle. Body tracks in the yard were laid with 76-lb. rail, the west lead and ladder tracks with 80-lb. A.S.C.E. rail, and the east lead and ladder tracks with 90-lb. ARA-type A rail. The frogs in the ladder tracks and in other important turnouts are of the cast steel self-guarded type, 11 of

The Tower at West Bridge Junction—Avondale Engine Terminal in Right Background

them being furnished by the Locomotive Finished Materials Company of Leavenworth, Kan., and all the rest by the Pettibone-Mulliken Company of Chicago. Creosoted ties were used throughout. The tracks were surfaced on a sub-ballast of 5½ in. of fine oyster shell and a top ballast of 3½ in. of coarse oyster shell. A portion of the Avondale ferry yard, with a capacity of 126 cars,

(*Continued on page 949*)



The C. T. C. Control Machine is Located in the Office at Knobel

Centralized Traffic Control on the Missouri Pacific

Movements expedited on 34-mile bottle neck section where 14 trains are bunched in 8 hours

THE Missouri Pacific has installed centralized traffic control on 8 miles of double track and 26 miles of single track between Poplar Bluff, Mo., and Knobel, Ark. This section of the line is a bottle neck between diverging routes at each end. North of Poplar Bluff passenger trains and some fast perishable and merchandise freight trains to and from St. Louis are handled over the direct route via Bismarck, Mo., while tonnage freight trains between St. Louis (Dupo Yard) and Poplar Bluff are operated over the low-grade line on the east side of the Mississippi river via Gale, Ill. Likewise, at Knobel, the south end of the C.T.C. territory, the line to North Texas, Mexico and California extends southwest via Little Rock, Ark.,

The Switch Layouts Were Reconstructed When Installing the Power Machines

while the line to Memphis, Tenn., and Louisiana branches off to the south. Passenger trains on the Memphis line connect with main line trains at Knobel, but freight trains on the Memphis line originate and terminate at Poplar Bluff, thus adding two or more trains daily to the traffic on the Poplar Bluff-Knobel section of the main line.

Track Layout

Between Poplar Bluff and Knobel the line extends through river bottom territory on a practically level grade. Furthermore, the line is comparatively straight, having only two curves, with a speed limit of 60 m.p.h. The track is well constructed, using 112-lb. rail, and the speed limit is 70 m.p.h. for passenger trains and 50 m.p.h. for freight trains.

The double track extends from Poplar Bluff to Harviell, eight miles. Passing tracks are located at Harviell, Neelyville, Moark, Corning and Knobel. These passing tracks each have a capacity of 87 cars, with the exception of the one at Corning which will hold 150 cars. The fast freight trains hauling fruit or merchandise usually handle about 80 cars, while tonnage trains handle up to 110 cars. The turnouts at the south end of Poplar Bluff yard, at the end of double track at Harviell, and at the two ends of the passing track at Corning, are No. 20, the remainder of the turnouts being No. 10.

This territory was equipped with automatic block signaling in 1926. When changing over to the C.T.C. system, new signals were added to direct train movements when leaving the sidings, and the main line station-leaving signals were moved back to the clearance point. Signaling was also provided for either-direction train operation on both tracks between Poplar Bluff and Harviell. Power switch machines were installed at the two ends of the five passing tracks, at the switches and crossovers at the yard entrance at Poplar Bluff and at the junction switch at Knobel. A remote-control power switch and signal layout at the end of double track at Harviell was incorporated in the new system. The signals for directing train movements at the ends

Northbound Train Passing Corning

of the sidings, at the end of double track and at the junction, as well as the switch machines, are controlled from the C.T.C. type control machine in the operator's office at Knobel. The operator in charge of this machine works under the direction of the dispatcher at Little Rock. The C.T.C. control machine was located at Knobel because of the likelihood of extending the C.T.C. system south on the main line to Hoxie, Ark., 28 miles.

Signals Were Installed to Direct Train Movement

Bunching of Trains Caused Delay

The line south of Poplar Bluff handles 12 passenger and 8 scheduled freight trains daily, which, with extra sections, usually bring the total to about 26 to 28 trains daily. Although 2 additional freight trains for the Memphis line are operated daily over the main line between Poplar Bluff and Knobel, this section of the main line was equipped with C.T.C. at this time primarily because a considerable number of the main line trains, as well as the two Memphis line freight trains, are bunched in this territory between 10 p.m. and 6 a.m. During this period of eight hours, four passenger and four freight trains are scheduled southbound, as well as four passenger and two freight trains northbound, and extra trains frequently complicate the operation still further.

Under the previous method of operation, train movements on this territory were directed by time table and train orders. Although the automatic block signaling previously in service increased the safety and assisted materially in train operation, nevertheless there were numerous delays in making meets, especially when some of the trains were off schedule. Also, considerable time was lost when trains moved in or out of passing tracks on account of the switches being hand-thrown.

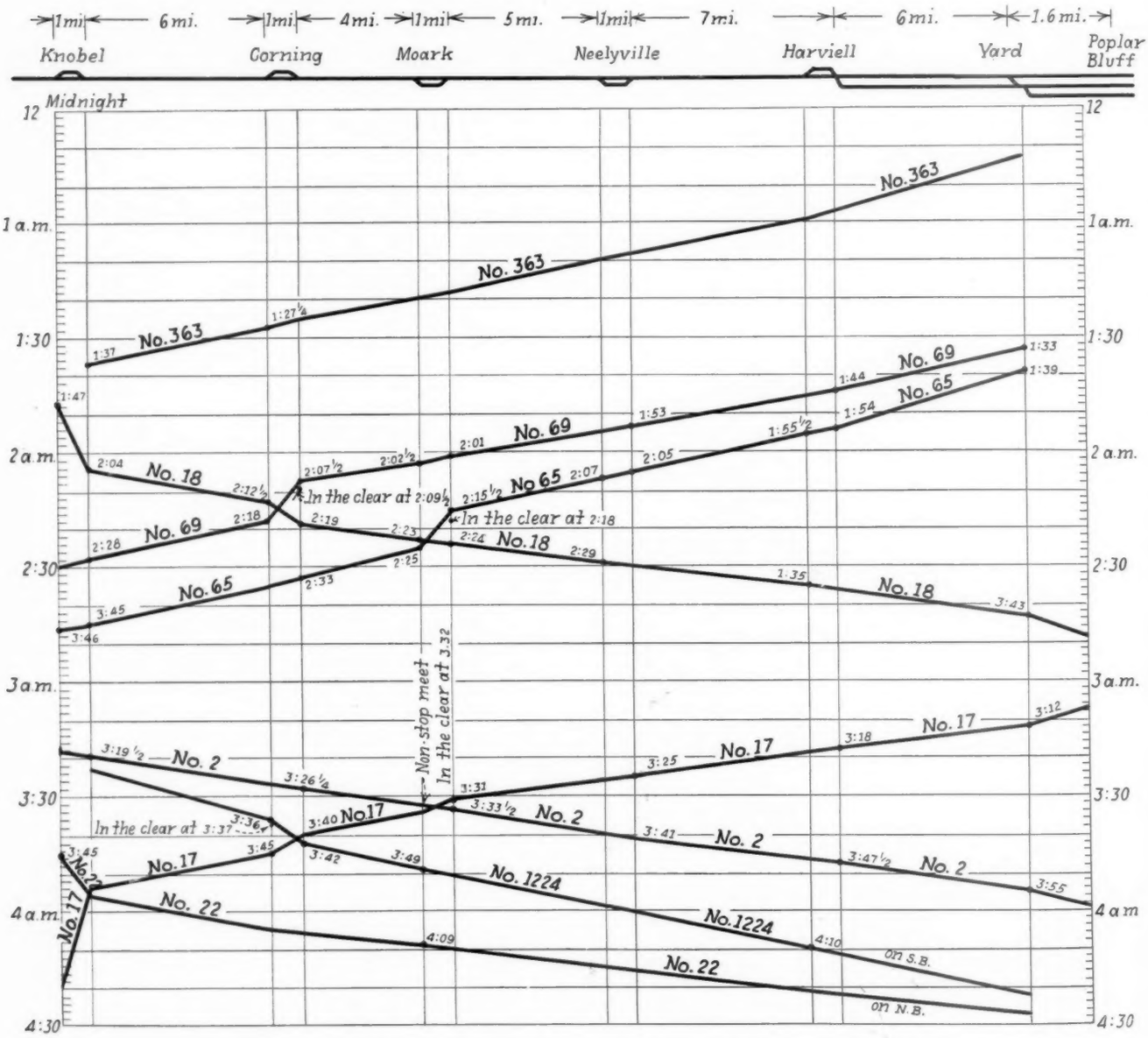
With the new C.T.C. system, all of the passing track switches are power operated and the control operator handles these switches, as well as the signals which di-

rect train movements, no train orders or superiority of trains being used. By means of the indication lights on the control machine, the operator has information as to the location and the progress being made by each train. As a result, the meeting points can be arranged to fit the circumstances at the time, so that each train is advanced as far as possible. The use of the power switches makes it practicable for a train to move out of a passing siding to the next town and into the siding there about six or eight minutes quicker than with hand-throw switches, and this fact further expedites operations.

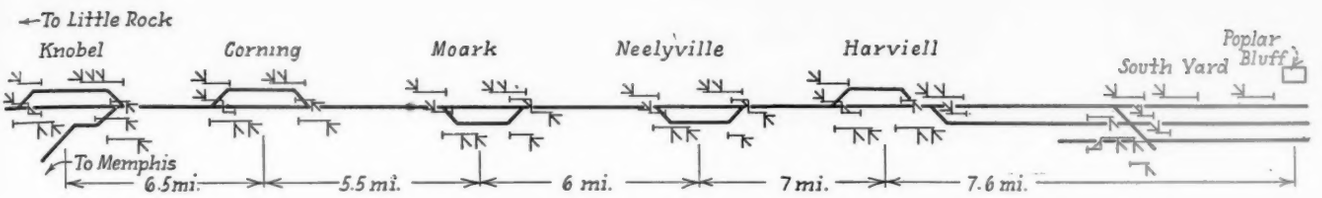
At Corning, where the capacity of the siding is 150 cars and No. 20 turnouts are installed, meets are frequently made in which neither train stops; where short trains such as passenger trains are involved, non-stop meets are likewise made quite often at some of the other sidings. During the third trick on April 19, non-stop meets were made with passenger train No. 17 and passenger train No. 2 at Neelyville, and with train No. 17 and passenger train No. 22 at Moark. Likewise, on the same night, non-stop meets were made with train No. 18 and freight train No. 69 at Knobel and with freight train No. 65 at Corning.

The time at all stations is not available to permit a time-distance chart to be plotted for the train operation on April 19, as explained above. However, by observing the operation of the lights on the track diagram between 1 a.m. and 5 a.m. on the morning of April 21, a time-distance chart was plotted, as shown in the accompanying illustration. On this morning a non-stop meet was made between passenger trains No. 2 and No. 17 at Moark. The locomotive of No. 17 passed the north switch at 3:31 a.m. and the train was in the siding within two minutes. The operator then caused the switch to be reversed and cleared the signal for train No. 2, which, in the meantime, had passed the south switch at 3:32 a.m., and it passed the north switch at 3:33½ a.m. The south switch was then reversed and the signal cleared for No. 17, which passed out at 3:34½ a.m., neither train having stopped. Train No. 2 held the main line, moving at an average speed of about 50 m.p.h. Train No. 17, which went through the passing track, took four minutes, from 3:31 until 3:35 a.m., from the time the locomotive passed the north switch until it passed the south switch, making this move at an average speed of 15 m.p.h. without stopping.

On the same morning extra No. 1224 went from Knobel to Corning and got in the clear on the passing



Time-Distance Chart of Train Movement Between Midnight and 4:30 a. m. on April 21, 1937



Track and Signal Plan of Centralized Traffic Control Territory

track at 3:37 a.m., 14 min. after leaving Knobel. Train No. 17 passed the north switch at Corning at 3:40 a.m. and No. 1224 then pulled out at 3:42. Thus this train was in the siding only five minutes. Likewise, southbound freight train No. 65 was in the clear on the passing track at Moark at 2:18 a.m. and five minutes later northward passenger train No. 18 passed the north switch at this siding; one minute later, at 2:24 a.m., train No. 65 pulled out at the south end, the standing delay on the siding being not more than six minutes. Under train order operation, with hand-thrown switches, it is quite likely that train No. 65 would have been held at Neelyville for a meet with train No. 18. If this had been done it might have been impracticable to move No. 65 to Knobel before No. 2 was scheduled to depart, which would have held No. 65 at Corning for No. 2 and then, as the Corning passing track would have been occupied, Extra No. 1224 would have been held at Knobel until about 4 a.m. after No. 22 had gone.

It is evident, therefore, that as a result of the benefits accomplished by the C.T.C. system in expediting train movements, the third trick "nightmare" has been eliminated. Whereas under the previous method of operation several trains accumulated delays that had to be run out on other divisions, these trains are now handled on schedule through the Poplar Bluff-Knobel section.

Comparison of Operation for Two Days

In order to get a comparison of operation for periods when the normal amount of traffic was handled before and after the C.T.C. was installed, a search was made of the train sheets to find a day in April, 1936, on which the same number of trains was operated as on a day in April, 1937. As passenger trains No. 21 and No. 22 were added to the schedule on May 17, 1936, this changed the conditions somewhat. In making the comparisons, the operation of the local freight trains was excluded.

For the period when train orders and time tables were in effect, on April 26, 1936, 10 passenger and 12 freight trains were operated. Under C.T.C. operation on April 19, 1937, 13 passenger and 10 freight trains were handled. The average time over the territory for passenger trains on the 1936 day was 43.6 min., while the average for freights was 77 min. On the 1937 day the average time for passenger trains was 40.4 min. and for freights 59.9 min. Thus the time for passenger trains was reduced an average of 3.2 min. and for freights 17.1 min. These figures are for the days as a whole. For the trains operated during slack periods of the day when they met no interference, there was, of course, no appreciable saving in time. For example, no meets are scheduled for 4 of the 12 passenger trains and for 5 of the through freight trains. Passenger train No. 17 meets one freight, No. 368, and two passenger trains, No. 2 and No. 22. Passenger train No. 7 meets passenger train No. 26, and No. 25 meets No. 8. Passenger train No. 18 meets freight train No. 69.

A comment could be made that 14 trains may be handled on one trick but there may be some question as to the ability to handle such traffic continuously, or, in other words, at the rate of 42 trains daily. During the Ohio River floods in February, when trains of other roads were routed over this section of the Missouri Pacific, as many as 54 trains were handled over this territory daily from January 30 to March 8. This traffic was handled by time-table and train orders up to February 11, at which time the final section of the C.T.C. was completed and placed in service. Data were compiled to show a comparison of train operation during the days in February prior to and subsequent to the date the C.T.C. was placed in service. The average number of trains daily during the train order period was 34⅓, which increased to 39⅙ for the C.T.C. period. The average speed of freight trains increased from 19 to 23 m.p.h. and of passenger trains 39 to 46 m.p.h. Eight-hour maximum traffic periods were studied. In the period before the C.T.C. was placed in service, seven freight and seven passenger trains were handled, and the traffic after the C.T.C. was installed included eight passenger and seven freight trains. The average speed of the freights was increased from 15 m.p.h. to 24 m.p.h. and that of the passenger trains from 36 m.p.h. to 47 m.p.h. Data were then prepared comparing the operation on the first three days of February with that on February 13 to 15, inclusive, which showed that although the number of trains increased from a daily average of 34⅓ to 37, the average time for freight trains to cover the 31.5 miles was reduced from 100 min. to 83⅓ min., and for passenger trains from 50⅔ min. to 42⅓ min. Furthermore, these data brought out the surprising fact that when trains were operated through the territory as a continuous run on main track without taking siding, the average speed for passenger trains was increased from 47 m.p.h. to 54 m.p.h and for freight trains from 30 to 32 m.p.h The explanation of this fact is that, under train order operation the enginemen usually reduced speed when approaching within braking distance of some of the block offices in order

Comparison of Train Operation by Train Orders and Centralized Traffic Control Under Heavy Traffic Conditions During February

	Train Order Operation	Centralized Traffic Control
Average number of passenger trains daily	16⅔	15⅙
Average number freight trains daily	17⅔	24
Average number total trains daily	34⅓	39⅙
Average speed freight trains (m.p.h.)	19	23
Average speed passenger trains (m.p.h.)	39	46
Maximum trains 3-hour period	8	9
Freight	2	3
Passenger	6	6
Average speed during 3-hour period (m.p.h.)		
Freight	15	27
Passenger	34	39
Maximum number of trains in 8-hour period	14	15
Freight	7	8
Passenger	7	7
Average speed during 8-hour period (m.p.h.)		
Freight	15	24
Passenger	36	47

to observe the train order signals. Under C.T.C. operation no such reduction in speed is necessary.

The data given above do not include the local freight train operated each way daily. Since the C.T.C. has been in service, this train completes its run from one to two hours earlier, and as this is all on overtime for a crew of seven men, including an express messenger, the saving on this train alone is worth while.

Comparison for Two Three-Day Periods

	Train Order Operation			Centralized Traffic Control		
	Day of the Month of February, 1937					
	First	Second	Third	Thirteenth	Fourteenth	Fifteenth
Number southbound passenger trains ..	8	8	9	8	9	7
Number northbound passenger trains ..	8	8	9	8	7	7
Number southbound freight trains	9	11	8	13	11	10
Number northbound freight trains	8	8	9	12	15	11
Total first and second class trains	33	35	35	41	42	35
Total time of freight trains (Min.)	1756	1877	1664	2196	2109	1712
Average time per train (Min.)	103	99	98	88	81	81
Total time of passenger trains (Min.).	822	815	906	701	669	596
Average time per train (Min.)	51	51	50	44	42	42

The major items of signaling equipment for this installation were furnished by the General Railway Signal Company, and the construction was handled by the Missouri Pacific signal forces, supervised by L. S. Werthmuller, assistant signal engineer, and C. T. Marak, signal foreman, under the direction of P. M. Gault, signal engineer.

Protective Section Reports Fewer Robberies

THEFT of freight on railways in 1936 was the lowest on record, according to reports made at the seventeenth annual meeting of the Protective Section of the Association of American Railroads at Cleveland, Ohio, on May 26-27, chairman W. E. Riggs, chief special agent of the Railway Express Agency, presiding. In addition to reducing the losses on account of theft to $688,792, the ratio of theft to the total freight claims paid dropped from 4.7 per cent in 1935 to 3.2 per cent in 1936 in spite of the fact that all claim payments increased 16 per cent. While special agents have successfully directed their attention to the reduction of thefts, they have also perfected other phases of their work with the result that crime on railroads is now on the decline. Exchange of information and co-operation among the police departments of the railroads, and working arrangements with local and federal law enforcement bodies have facilitated apprehension. In many cases the finding of major criminals hunted by the Federal Bureau of Investigation for months or years has been due to the alertness of railway police.

Officers elected for the ensuing year are: Chairman, W. J. Redman, superintendent of property protection of the Erie, and vice chairman, G. A. Shea, director of the department of investigation of the Canadian National.

Discussion of the effectiveness of the dissemination of information concerning criminals and their offenses not only revealed interesting cases but showed the diversified nature of the special agents' work. In one case an elusive law breaker was finally convicted when the special agents of several railroads, by reporting the occurrences of his offenses at certain points, were able to determine where the man would make his next appearance and arrest him as he stole from sleeping passengers. In other cases relaying of information has resulted in the arrest of check forgers, cigarette thieves, solicitors for fictitious magazines, and persons faking injuries. Malicious destruction of railroad property is being similarly prevented. In one instance, a group of boys who hurled bricks through the wooden sheathing of caboose cars of passing trains by means of a sling shot made with a full-sized inner tube, were easily arrested and convicted because the apprehending police knew of their previous offenses on another railroad.

During consideration of the report of the committee on co-operation with the Freight Claim division, it was suggested that the jurisdicton of special agents be extended to include the policing of live stock reports, since $49,054 was paid by the carriers in 1936 largely because the count was incorrect or the record to prove delivery was wrong or non-existent. Specific recommendations provided that the special service departments of the live stock lines determine (a) if the count at receiving points is reliable and corresponds with the live stock contract, (b) whether when handled at intermediate points, the count at the time of unloading and reloading, compares with the waybill and is properly recorded immediately instead of hours later from memory, (c) if a proper record is made when crippled or dead stock is taken from cars, and (d) if an honest count is made at destination.

117,761 Arrests in 12 Months

The secretary's report showed that during the 12 months ending with March, 1937, the railway police made 115,761 arrests, 9,242 being for felonies and 106,337 for misdemeanors. The committee on trespassing reported that this problem is growing in importance and that the solution is one of educating the public, since local police, because of politics and lack of money, cannot deal with the situation. Discussion of trespassing showed that in previous years when train and yardmen assisted in policing there were fewer persons riding trains and entering railroad property.

The program of the meeting included addresses on a variety of subjects significant to protective work. Harold H. Burton, mayor of Cleveland, commended the members on their close association with the Cleveland police. G. D. Brooke, executive vice president of the Chesapeake & Ohio, discussed the value of police work in preserving the revenues of the railroads by reducing thefts of merchandise from $1,016,000 in 1934 to $661,000 in 1936. He asserted that the best way to secure results is to remove the underlying cause.

Co-operation With Federal Government

J. P. MacFarland, special agent in charge of the Cleveland office of the Federal Bureau of Investigation of the U. S. Dept. of Justice recommended closer co-operation with the federal government and urged railroads to make greater use of the government's identification bureau and technical laboratory in which 35 scientists are making researches in crime. He told how one railroad special agent aided the bureau by sending it a cigarette carton which had been stolen from a freight car. The fingerprints on it identified the thief and made known the location of an escaped convict.

During the discussion of habitual criminals, members recommended an habitual criminal act as a means of preventing light sentences and repetition.

Other speakers were R. E. Woodruff, vice president of the operating department of the Erie; W. K. Weaver, general manager of the Railway Express Agency, Inc.; Albert Green, special representative of the Freight Claim division of the Association of American Railroads; E. B. Freed, U. S. district attorney at Cleveland; H. E. Cassidy, inspector of police of the Chesapeake & Ohio; Charles T. Hansen, post office inspector at Denver; A. B. Moore, inspector of the New York state police department; T. T. Keliher, chief special agent of the Illinois Central and A. O. Beck, system supervisor of first aid and accident prevention of the Canadian National.

New Haven Files Reorganization Plan

THE directors of the New York, New Haven & Hartford on June 1 filed their plan for the reorganization of the property under Section 77 of the Federal Bankruptcy Act with the Federal Court at New Haven and the Interstate Commerce Commission at Washington. The plan would effect the following changes in the company's fixed charges:

	1935	Under Plan
Fixed interest and required sinking fund payments on funded debt	$12,222,136	$7,872,172
Interest on unfunded debt	1,341,415	none
*Gross rentals for leased roads	4,844,333	1,299,137
Guarantees	1,123,439	96,600
Miscellaneous	798,597	675,000
Total	$20,329,920	$9,942,909

* Rentals are shown without deduction for dividends received by the New Haven on stock of leased lines owned by the railroad. Net rentals would be $2,769,073 for 1935 and $1,119,529 under the proposed plan.

"An estimate of trends of traffic and transportation conditions indicate probable gross operating revenues of $87,500,000," says the directors statement. "On this basis it is calculated that there will be over $14,000,000 of income to meet total fixed charges of approximately $10,000,000. Fixed bond interest is to be covered approximately 1.5 times" The synopsis of the plan follows:

The plan proposes that with the exception of equipment trust obligations and certain underlying mortgage bonds, all classes of creditors and stockholders shall accept substantial changes in their securities.

Rejection of the following leases has already been authorized by the Court: Chatham Railroad Co., Connecticut Railway & Lighting Company, Hartford & Connecticut Western Railroad Company, Old Colony Railroad Company, Providence, Warren & Bristol Railroad Company.

The plan provides, however, for the acquistion by the reorganized corporation of the properties of the Hartford & Connecticut Western, Old Colony, and Providence, Warren & Bristol, and for the assumption by the reorganized corporation of the lease of the Boston & Providence as well as the retention of the leases of the Norwich & Worcester, Providence & Worcester, and Holyoke & Westfield. The plan provides for the creditors and stockholders of the Hartford & Connecticut Western, Old Colony, and Providence, Warren & Bristol to receive securities of the reorganized company in exchange for their present securities.

These reorganization securities are to consist of 35-year 4 per cent fixed interest bonds secured by a new mortgage substantially like the present First and Refunding Mortgage; 45-year 4½ per cent non-cumulative income bonds secured by new general mortgage as a junior lien on the same properties as the new First and Refunding Mortgage; first preferred stock; second preferred stock; and no par common stock. Fixed interest bonds will have the benefit of a sinking fund of 10 per cent of net income after provision for capital expenditures but before contingent interest. All classes of stock will have voting power.

In general the new fixed interest bonds, income bonds, and first preferred stock, will be distributed to secured creditors; the new second preferred stock to unsecured creditors, and the new no par common stock to present preferred and common stockholders of the New Haven and to stockholders of the leased companies proposed for merger with the New Haven. All equipment trust obligations and all the present underlying mortgages, except those referred to below are to remain undisturbed. Housatonic Railroad Company bonds due November 1, 1937 to be exchanged at par for fixed interest bonds. New Haven and Northampton Company bonds to be exchanged for 90 per cent fixed interest bonds, 5 per cent in income bonds, and 5 per cent in first preferred stock. New England Railroad Company bonds, both 5's and 4's, to be exchanged for 75 per cent in fixed interest bonds, 12½ per cent in income bonds, and 12½ per cent in first preferred stock. Danbury & Norwalk Railroad Company bonds to be exchanged for 50 per cent fixed interest bonds, 25 per cent in income bonds, and 25 per cent in first preferred stock. Boston & New York Airline Railroad Company bonds to be exchanged for 50 per cent in income bonds and 50 per cent in first preferred stock.

All bonds outstanding in the hands of the public secured by the present First and Refunding Mortgage to be exchanged for 50 per cent in fixed interest bonds, 25 per cent in income bonds, and 25 per cent in first preferred stock. The outstanding secured Gold 6's of 1940 now secured by deposit of collateral, consisting of first and refunding mortgage bonds, to be exchanged at par for fixed interest bonds and the collateral to be surrendered.

The Old Colony Railroad Company bonds outstanding in the hands of the public to be exchanged for 40 per cent in fixed interest bonds, 30 per cent in income bonds, and 30 per cent in first preferred stock.

The collateral notes held by the Railroad Credit Corporation, Reconstruction Finance Corporation, and Public Works Administration, to be exchanged at par for fixed interest bonds and the securities pledged as collateral to be surrendered.

The collateral notes of the New Haven and of the Old Colony held by banks, except in the case of certain banks holding inferior collateral, to be exchanged for an equal principal amount of fixed interest bonds and the securities pledged as collateral are to be surrendered.

The unsecured debentures of 1957, including those issued by Providence Securities Company, to be exchanged at par for second preferred stock.

The guarantees of Boston Railroad Holding Company preferred stock, New York Connecting Railroad Company bonds, and New York Stamford Railway Company bonds are to be assumed by the reorganized corporation, but the guarantees of New York, Westchester & Boston Railway Company bonds, Springfield Railway Companies preferred shares, and New England Investment and Security Company preferred shares, as well as other miscellaneous unsecured claims, are to be discharged in second preferred stock, in the amounts at which those claims are finally allowed by the Court.

Accrued and unpaid interest to the date of the consummation of the plan on equipment trust obligations and undisturbed underlying bonds are to be paid in cash. Such interest on obligations which are to be exchanged for reorganization securities are to be discharged in additional reorganization securities of the same kind and in the same proportion.

Holders of present preferred stock of the New Haven are to receive five shares of new no par common stock for every four shares of preferred (including accumulated dividends thereon) now held. Holders of common stock of the New Haven are to receive one share of new no par common stock for every five shares now held. Stockholders of Old Colony Railroad Company are to receive two shares of new no par common stock for each share now held. Stockholders of Providence, Warren & Bristol Railroad Co. are to receive one share of new no par common stock for each share, whether preferred or common, now held. Stockholders of Hartford & Connecticut Western Railroad Co. are to receive one share of new no par common stock for every three shares now held. Shares of stock of any of those corporations now held by the New Haven

(*Continued on page 949*)

New York Railroad Club Has "U. S. Steel Night"

Papers feature research and developments by corporation in special steels for car construction, welded track and improved rail manufacture

STEELS for car construction, continuous welded track and Brunorized rail were the principal subjects discussed at the May 21 meeting of the New York Railroad Club, which was designated "United States Steel Night." A large number of members and guests were in attendance when William A. Irvin, president of the Steel Corporation arose to express his pleasure at the opportunity given to the corporation to tell of its extensive research work and recent developments of interest to the railway industry.

The subject of steels for car construction, and, more particularly, the research culminating in the development of Cor-Ten steel, was discussed by Albert F. Stuebing, railroad mechanical engineer of the corporation, whose paper is abstracted herewith. Frank R. Layng, chief engineer of the Bessemer & Lake Erie, described the experiment being carried out on his road, a subsidiary of the corporation, with one track-mile of Thermit-welded rail and GEO track fastenings, and R. E. Zimmerman, vice-president in charge of metallurgy and research, described the recently developed Brunorizing process of steel refinement and stress relieving in rail manufacture.

After discussing in some detail the character and construction of the welded track on the B. & L. E., which was put in service in November, 1935, Mr. Layng said that while it is still too early to expect a final answer to the value of the construction employed, it is of interest to know that thus far there have been no broken welds; that the running surface of the rail in the area of the welds has shown no indication of breaking down; and that, as a whole, the track has remained in excellent line and surface without attention on the part of the track forces.

Concerning expansion and contraction of the long welded rails, Mr. Layng pointed out that this has been so controlled by the type of track fastenings employed, that the longitudinal movement of the rails at one end has been confined to a maximum of 1 in., while at the other end it has been limited to a maximum of ¾ in. The Brunorizing process in rail manufacture, discussed by Mr. Zimmerman, was described in the *Railway Age* of March 13.

An abstract of Mr. Stuebing's paper follows:

Research Developments in Steels for Car Equipment

Three years ago, a new steel was offered to the railroads—a steel distinctly different from the hundreds of compositions previously available. It has been the forerunner of a group of similar materials which are generally known as "high-tensile steels." The importance of this development can be gaged by the fact that, in the brief period since their introduction, the high-tensile steels regarding which we have data have been used in more than 1,000 passenger cars for steam railroads, elevated railroads and street railways, and in over 11,000 freight cars.

The Cost of Providing and Operating Freight Cars

To provide new freight-train cars in the period from 1922 to 1936, Class I railroads of this country spent $2,200,375,000. This was 25.9 per cent of the gross expenditures for all additions and betterments to railroad property—over twice as much as was spent for locomotives—and more than for any other item of equipment or roadway and structures. The total investment in freight cars owned by Class I roads in 1933, the latest date for which we have figures available, was over 3¼ billion dollars. Allowing 8½ per cent for interest, depreciation and taxes on freight cars, these expenses amount to 276 million dollars annually. Freight-car maintenance in the last ten years averaged about 235 million dollars per year. Another item that must be considered is the net debit balance for hire of freight cars, amounting to about 88 million dollars annually, practically all of which is payment for fixed charges and maintenance on equipment the railroads use but do not own.

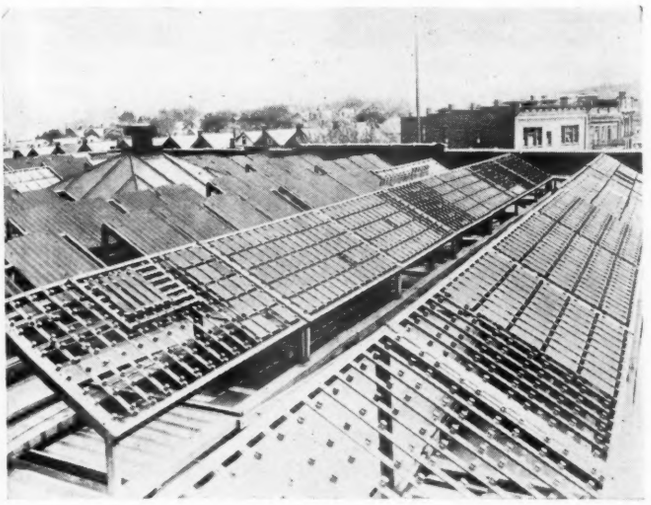
The sum of these items brings the total annual cost of providing freight cars to 599 million dollars. This is about 17 per cent of the gross revenue from freight operations; in other words, one-sixth of all the money received for hauling freight is spent to provide and maintain a container, suitable for operation on a railroad, in which to carry the freight.

The subject of operating economies effected by improved locomotives has been discussed many times, but, until recent years, relatively little has been written concerning savings in transportation costs made possible by freight-cars designed with particular regard for efficient railroad operation. The expense involved in hauling the tare weight of cars is an item which is becoming increasingly important because the ratio of tare ton miles to net ton miles has been mounting almost continuously during the last fifteen years. In 1920 the railroads hauled about one ton of dead weight for every ton of lading, exclusive of locomotives and tenders. In 1929, another year of peak traffic, this ratio was 1⅓ to 1, and in recent years it has been approximately 1½ to 1. This increase has occurred in spite of the fact that the ratio of the tare weight of freight cars to their maximum capacity has not increased, but has decreased slightly.

To what extent does the high proportion of tare weight affect the operating costs of the railroads? A conservative estimate indicates that the average out-of-pocket cost of hauling a ton of weight in a freight car is $18 per year. This is a round figure that includes only the marginal costs, or the amount that would be

saved by eliminating one ton of deadweight from a car. On this basis, the average cost of hauling each freight car would be $417 annually, or 740 million dollars for the number of cars owned as of January, 1937.

The combined expenses for providing and moving freight cars, which are directly due to or affected by the character of the equipment, total about 1¼ billion dollars each year. Therefore, it is important to determine



Atmospheric-Corrosion Test Racks at Vandergrift, Pa.—Similar Tests Are Conducted at South Bend, Pa.; Kearny, N. J., and Key West, Fla.

how these items might be decreased. In analyzing the figures, two facts stand out. First: fixed charges—interest, depreciation and taxes—amount to less than one-fourth of the total. What the railroads spend *for* a car is not nearly so important as what they spend *on* the car. Second: the largest item, amounting to more than all others combined, is the cost of hauling the car. There are opportunities for large savings if freight equipment can be designed to cut operating costs.

The Value of Weight Reduction

Lighter cars could carry more load; therefore, fewer cars would be needed. Reduction in the number of cars and the weight to be hauled would decrease the number of trains required, resulting in economies in wages, fuel and supplies in both road and yard service. It is generally recognized that modern locomotives effect substantial savings in the cost of conducting transportation. Lighter freight cars are another means to the same end. Reducing the weight of freight cars can produce many of the savings in transportation costs that are effected by increasing the capacity of freight locomotives used in road and yard service, or by reducing ruling grades. The possibilities of economies by the use of light-weight cars are now being studied more carefully than they have been heretofore. Such analyses have given strong impetus to the movement for the reduction of weight of freight equipment.

In passenger service, light equipment effects similar savings and has additional advantages. The heavy wheel loads of conventional passenger cars make proper braking a serious problem in high-speed operation. Air conditioning is recognized as a necessity, but it adds four to seven tons of weight per car and increases the resistance of the equipment, thus requiring additional power. Light-weight-construction more than offsets these disadvantages.

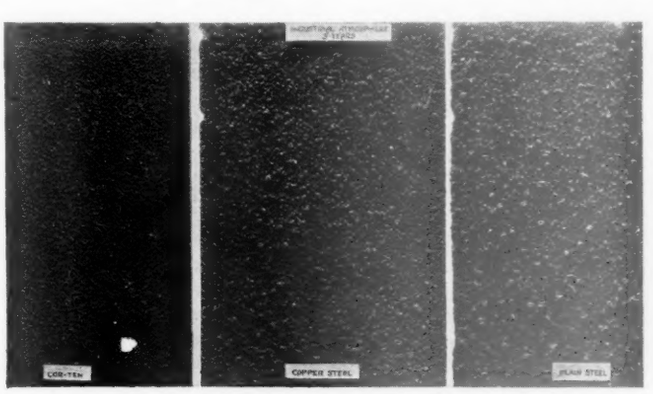
Reduction in the weight of cars would obviously save transportation expenses, but might not be economical if first cost and maintenance expenses were increased substantially. To effect savings in fixed charges, maintenance of equipment, and transportation costs by lighter, more efficient cars, requires material costing no more than conventional materials per unit of strength; difference in cost per pound is immaterial.

In the development of freight- and passenger-car design, railroads and equipment manufacturers had tried for many years to reduce dead weight, but had found the possibilities limited. Plain steel and copper-bearing steel were practically the only materials which had the combination of properties and cost that was essential for serviceability and economy in car construction.

This was the situation when, in 1933, the United States Steel Corporation decided to investigate the possibility of developing a steel especially suitable for railroad equipment. Answers to a questionnaire sent to engineers, asking what characteristics would be needed in a material to enable them to make more efficient and economical cars, showed general agreement as to the requirements. All of these engineers stated that such a steel should have greater strength than plain steel in the as-rolled condition, and, especially, higher yield point, endurance limit and impact strength. Another requirement was ductility sufficient to permit hot or cold forming as with ordinary steel. Furthermore, the workability of the material should be such as to permit all the operations necessary in shaping and fabricating to be performed by the processes and equipment generally used. Also, it should be adapted for making strong ductile welds, because welded construction is one means of reducing weight. Increased resistance to corrosion was necessary to insure adequate service life when applied in thin sections. Last, and the most serious hurdle for the metallurgist to negotiate, it was imperative to provide such a steel at a price that would add little to the cost of the equipment.

Cor-Ten the Culmination of Years of Research

Prospects of obtaining, within a short time, a steel of the type desired did not seem promising. At this juncture, fortunately, the culmination of research carried on for many years provided a solution to the problem. The



Appearance of Uncleaned Samples of Cor-Ten, Copper Steel and Plain Steel after Three Years' Exposure in an Industrial Atmosphere

corrosion research laboratories had been experimenting with practically every composition which, in the opinion of the metallurgists, might develop desirable properties. During a period of six years, over 30 thousand samples, comprising more than 500 different compositions of steel, had been tested for resistance to atmospheric corrosion. During these tests, one composition showed marked su-

periority. In prolonged exposure, the amount of rust which formed on this steel was only one-fourth to one-sixth of that formed on plain carbon steel under similar conditions. This composition, which had a low carbon content and contained chromium, copper, silicon and phosphorus, was considered initially for use in steel roofing, but, inasmuch as it developed more than 1½ times the strength of steels used in railroad equipment, and had the other characteristics sought by the engineers, it was admirably suited for use in the construction of light-weight freight and passenger cars.

The only corrosion tests of considerable duration, completed prior to the introduction of this steel, were those in which it was exposed to the atmosphere, and this caused some prospective users to question whether the material would withstand the effects of lading, and particularly the corrosive action of high sulphur coal. The information developed as to the factors that affect the deterioration of freight cars has come as a surprise to many engineers. Investigations by Schramm, Taylerson and Larrabee* have shown that the leachings from wet coal of moderately high sulphur content do not become severely destructive until the coal has been stored from four to six weeks. These technicians have estimated that more than 80 per cent of the deterioration of freight cars by rusting is due to atmospheric exposure. Their statements are borne out by conclusions reached through an entirely different method of analysis. During the past twenty years, many freight cars have been built of plain steel containing small percentages of copper. This addition imparts to the steel no other property except increased resistance to atmospheric corrosion. A study of the effect of copper steel in prolonging the life of freight cars furnishes convincing evidence of the correctness of the conclusions which Schramm, Taylerson and Larrabee have stated.

The chromium-copper-silicon-phosphorus composition was first put on the market in 1934, under the trade name "Cor-Ten." Cor-Ten, with Man-Ten, a medium manganese steel which equals it in strength but has only the same resistance to atmospheric corrosion as copper-bearing steel, and with 18-8 Stainless, containing 18 per cent of Chromium and 8 per cent of nickel, the outstanding characteristics of which are now well known, provide a range of high-tensile steels admirably suited to the requirements of all types of car construction.

The advent of high-tensile steels has given railroads and car builders much greater latitude in designing equipment to meet specific requirements. Perhaps the most profitable way in which these superior materials may be used is to achieve a considerable reduction in weight, while maintaining strength equivalent to that of conventional designs, thus effecting substantial operating economies. They may also be utilized in the same thicknesses that are customarily employed in cars built of carbon steel, to add strength and durability to a car or other structure and thus reduce maintenance costs. Most of the high-tensile steel equipment which has been placed in service represents a compromise, the improved properties of the steel being used partly to reduce weight and partly to increase structural strength. In our estimation, since these superior materials have been used conservatively, the lighter equipment which has been built of them will give longer life and will require less than the normal amount of maintenance.

In the introductory stages of this development, when the tonnage of high-tensile steels was relatively small and costs were high, the use of such materials in freight cars resulted in a considerable increase in price over similar equipment built of plain steel. Nevertheless, twenty-three railroads applied high-tensile steels in over 10,000 cars, because they believed ultimate economy would be found in lightweight freight equipment.

* See "Corrosion of Steel Cars by Coal," by G. N. Schramm, E. S. Taylerson and C. P. Larrabee, *Railway Age*, November 28, 1936.

Volume Has Reduced Price Differential

In the case of Cor-Ten, the benefits of lower costs have been passed on to users as the volume of production has increased. Originally, the price was twice that of copper steel; now the ratio is 1½ to 1. In many applications, it actually costs less per unit of strength than plain copper steel. A conservative design of high-tensile steel freight car, embodying substantial weight savings, yet stronger than plain steel equipment, now costs little more than the conventional car; and, when the comparison is based on investment per ton of load capacity, the car of high-tensile steel now costs no more.

Even those who were most skeptical regarding the economic advantages of the lighter equipment have agreed that substantial savings would be effected when such cars could be secured without adding to the initial capital outlay. As we have pointed out, that time has arrived. This development, brought about by research in the steel industry, now enables the railroads to obtain, with no increase in investment based on capacity, equipment which is strong and lasting, yet also light in weight. The high ratio of pay-load capacity to tare weight which such cars provide is bound to improve the operating economy of freight service.

Considering the fact that in 1936 high-tensile steels were used in about 70 per cent of all passenger cars and over 15 per cent of all freight equipment ordered, it seems reasonable to believe that we are entering an era in which lighter freight and passenger equipment will come into general use. The phenomenal progress this development has made is not surprising, because it is based on sound economic principles. It could not have proceeded so rapidly without the co-operation of the equipment builders, who have developed practical designs, and the railroad executives, who have analyzed the effect which the use of lighter cars will have on operating costs. Ralph Budd, president of the Chicago, Burlington & Quincy, said, in a recent letter:

"The Car Service Division of the Association of American Railroads estimates that in the year 1935 there was a movement of 454,247,224,000 ton miles in handling cars, not counting their contents.

"It is estimated that the cost per ton mile of moving the cars, not counting their contents, is 1.13 mills which, applied to the 113,561,806,000 ton miles that would be avoided if cars weighed one-fourth less, would equal $128,324,840.78. It is altogether likely that in 1937 there will be 20 per cent more business moving and the saving, therefore, might be $153,989,808.94."

Mr. Budd's statements provide a measure of the potential magnitude of this development. It is evident that even a partial realization of this possible saving would be a major achievement.

STARTING JUNE 5, THE SOUTHERN, the St. Louis-San Francisco, and the Rock Island will operate through sleeping car service between Atlanta, Ga., and Denver, Colo. The Southern will carry the cars between Atlanta and Birmingham, Ala., the Frisco between the latter point and Kansas City, Miss., and the Rock Island will operate the western leg of the journey to Denver. Eastbound, the cars will leave Denver at 2:20 p.m. and arrive in Atlanta at 11:50 a.m. on the second morning. Westbound, they will leave the eastern terminus at 3:20 p.m. and arrive in Denver at 11:45 a.m.

Claim Agents Meet at Cincinnati

THE problems of claim settlement and their importance to railroads occupied the attention of members of the Association of Railway Claim Agents at its forty-eighth annual convention at Cincinnati, Ohio, on May 26-28. The program of the meeting, over which President F. D. Fauser, general claims attorney of the Wabash presided, included committee reports, discussions of assigned topics and addresses by Robert A. Taft, general counsel of the Cincinnati Union Terminal Company, and Judge R. V. Fletcher, vice-president and general counsel of the Association of American Railroads. Mr. Taft analyzed present federal legislative trends contending that the centralization of government leads eventually to dictatorship. Mr. Fletcher summarized railroad legislation now before Congress and discussed compensation for injured employees. He favored state statutes rather than the enactment of federal legislation to govern such compensation.

Officers elected for the ensuing year are: President, P. M. Gatch, general claims attorney of the Illinois Central; vice-presidents, Robert E. Keck, general claim agent of the Northern Pacific, George B. Patton, claim agent of the Chicago, Indianapolis & Louisville and P. J. Cronin, chief claim agent of the Pennsylvania; and secretary-treasurer, F. L. Johnson of the Alton, re-elected. St. Louis, Mo., was chosen for the next annual meeting.

Highway Crossing Accidents

One of the most important subjects discussed was the increasing number of crossing accidents and the resulting claims for injury. F. A. Kelly, chief claim adjustor of the Atchison, Topeka & Santa Fe Coast Lines, said that there has been little change in the percentage of accidents wherein automobiles run into the side of trains. In 39 per cent of the 3,322 crossing accidents in 1934, automobiles ran into trains; 66.5 per cent were at unprotected crossings and 33.5 per cent at protected crossings. In 1936 the relationship remained the same, 38 per cent of the 3,792 crossing accidents consisting of automobiles striking trains, 63.64 per cent occurring at unprotected crossings and 36.36 per cent at protected crossings. Most of these accidents occurred at night; in the majority of cases automobiles struck back of the leading engine or car; they struck moving cars much more often than standing cars; and in 56 per cent of these accidents the highway approaches were level.

In the more important cases he recommended the taking of photographs to reproduce the same conditions as existed at the time of the accident, particularly to prove that legal or effective headlights on the automobile would have shown cars on the crossing.

Another subject of importance was occupational diseases. Dr. Emery R. Hayhurst, consulting hygienist at Columbus, Ohio, gave illustrations of the commoner occupational diseases, asserting that specific or true occupational diseases are not common and that seldom do more than 25 to 30 per cent of workers become involved. Diseases which are partly occupational are numerous and in a broad way may involve almost any worker. Health complaints rather than disease-states are the most numerous occupationally related conditions and the chief point of differential diagnosis lies in determining whether there is any actual disease present. If, he said, the order could be reversed and occupational health complaints eliminated, there would be no partly occupational or specific occupational diseases. A summary of compensable occupational diseases reported in Ohio for the nine-year period, 1928-1936, shows that the leading afflictions in descending order are: Dermatitis, tenosynovitis of the flexor or extensor muscles of the hand, lead poisoning, and chrome ulcerations of the nose or skin, followed by a much lesser number of cases of poisoning from benzol, brass or zinc, volatile petroleum products and a few others. Dust afflictions were omitted from the list since those are not compensable in Ohio.

A subject which is now receiving considerable attention because of its increasing application is the treatment of hernia by injection instead of by operation. T. L. Hansen, chief surgeon of the Chicago, Rock Island & Pacific, described his experience in the treatment of 300 cases in the last three years. The advantages, he said, are the elimination of expensive hospitalization since the injections can be made by a company physician in his office without incapacitating the patient.

During the discussion of the handling of suits against railways, E. R. Knapp, chief claim agent of the Erie, recommended that claim agents employ a shorthand reporter to take statements of witnesses as a protection against misunderstanding and a miscarriage of justice. His five reasons for using a reporter are: (1) The stenographic statement bridges completely the difference between the claim agent and the witness because it uses the actual words of the witness and thereby includes all the color and meaning which it can have because it is the everyday language of people and not the professional verbage of claim agents. (2) It prevents misrepresentation as it introduces the claim agent and the reporter as such, and any contradictions are proved not by a railroad employee but by a stenographer of official standing. (3) The exact words of the witness rather than his narrative statement as made out by the claim agent are of great value for they prevent the witness from contending that the claim agent's statements mean other than that which he said. (4) In many cases the stenographic report reveals whether a witness is lying. (5) It affords the trial attorney an opportunity to judge the attitude of the witness toward the railroad and to some extent his degree of intelligence and how he might be expected to stand up under cross examination.

Claim Economics

Frank W. Whiting, general claims attorney of the New York Central, gave a review of claim economics in which he touched upon the initiative taken by the association in the past. As a result of periodical physical examinations of employees, started by the railroads several years ago, the economic life of the employee has been extended nine years, while many found to have physical defects were restored to good health. Other examples of development in claim economics cited by Mr. Whiting were workers' compensation acts, a wave of federal and state social legislation and co-operation between employers and employees.

Other topics presented were the Doctrine of Assumption of Risk under the Federal Employers' Liability Act, by John W. Freels, local attorney of the Illinois Central; Advancing Money to Injured Employees Before Settlement, by C. W. Kroll, general adjuster of the Chicago, Burlington & Quincy; Complete Investigations, by Ivar E. Peterson, claim agent of the Union Pacific; A few "Incongruvial" Remarks, by J. J. Donahue, general claims attorney of the Louisville & Nashville; and Imagination as an Important Factor in the Handling of Claims, by G. E. Lewis, claim agent of the Texas & Pacific.

Freight Car Loading

WASHINGTON, D. C.

LOADING of revenue freight for the week ended May 22 totaled 779,276 cars, an increase of 5,607 cars or 0.7 per cent above the preceding week, an increase of 95,686 cars or 14 per cent above the corresponding week in 1936 and an increase of 180,880 cars or 30.2 per cent above the corresponding week in 1935. All commodity classifications except grain and grain products showed increases over the preceding week and over last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, May 22

Districts	1937	1936	1935
Eastern	168,448	152,075	143,161
Allegheny	163,693	137,608	120,522
Pocahontas	50,491	46,484	40,627
Southern	105,911	94,207	83,156
Northwestern	127,771	106,562	85,023
Central Western	106,049	93,961	80,065
Southwestern	56,913	52,693	45,842
Total Western Districts	290,733	253,216	210,930
Total All Roads	779,276	683,590	598,396
Commodities			
Grain and Grain Products	26,154	31,350	25,812
Live Stock	13,713	11,153	11,341
Coal	117,249	106,160	112,742
Coke	10,251	8,191	6,014
Forest Products	41,747	33,414	24,081
Ore	72,272	46,856	31,284
Merchandise L.C.L.	170,150	162,094	157,234
Miscellaneous	327,740	284,372	229,888
May 22	779,276	683,590	598,396
May 15	773,669	681,408	582,950
May 8	767,481	668,866	575,020
May 1	782,423	670,888	568,927
April 24	761,182	665,949	558,936
Cumulative Total, 21 Weeks..	15,156,729	13,150,240	12,132,312

Car Loading in Canada

Car loadings in Canada for the week ended May 22 increased to 50,219 from the 46,902 reported for the previous week, which contained a holiday, and 44,928 for the corresponding week last year, according to the summary prepared by the Dominion Bureau of Statistics.

Total for Canada	Total Cars Loaded	Total Cars Rec'd from Connections
May 22, 1937	50,219	28,379
May 15, 1937	46,902	28,665
May 8, 1937	51,174	30,609
May 16, 1936	44,928	24,551
Cumulative Totals for Canada:		
May 22, 1937	949,742	573,565
May 16, 1936	857,930	473,221
May 18, 1935	850,512	454,397

The Canadian Roads in April

The Canadian Pacific Railway had April net operating revenues of $1,848,410, as compared with $1,337,457 in April of 1936, an increase of $510,952. Gross for the month at $11,870,019 showed an increase of $1,289,783, while expenses rose by $778,831 to $10,021,609.

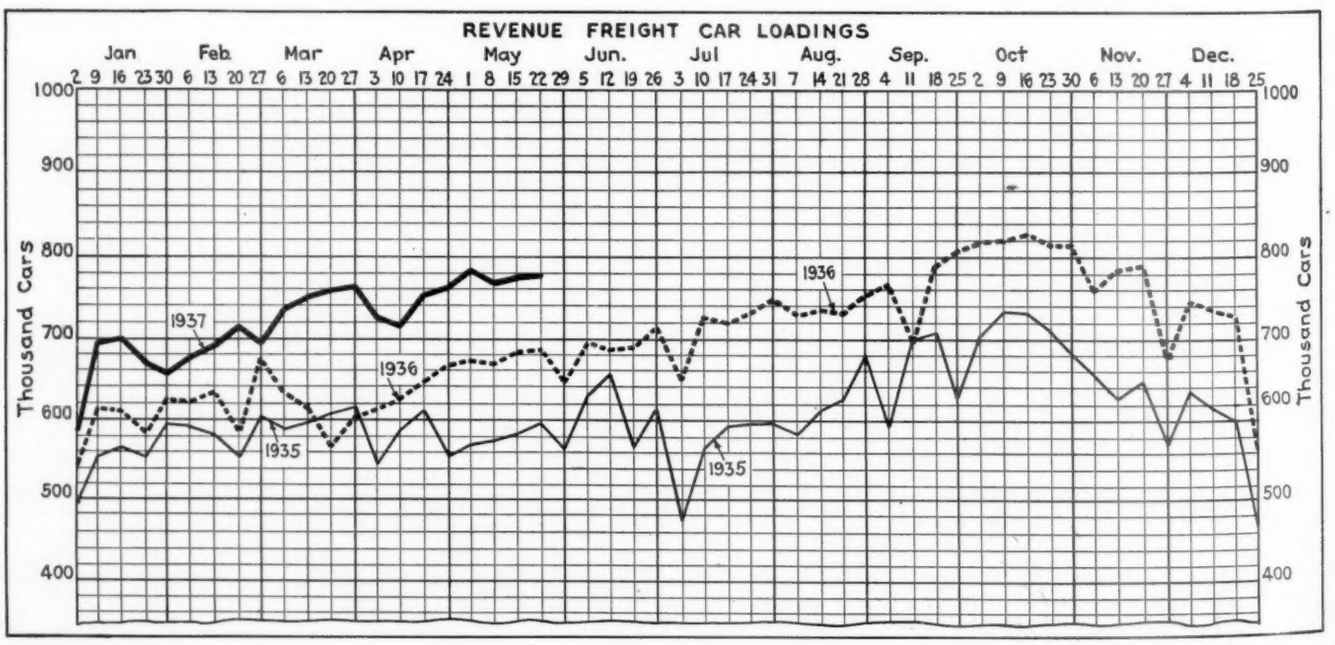
The company's net operating revenues for the four-month period at $5,490,823 showed an increase of $1,325,662 over the $4,165,161 figure reported a year ago. Gross at $43,527,100 was up $3,672,872, while expenses rose by $2,347,210 to $38,046,227.

In April Canadian National net operating revenue totaled $2,249,015, an increase of $793,709 compared with the same month last year. Net for the four-month period ended with April was $4,566,511, an increase of $3,034,464 over that reported in the corresponding period a year ago.

Operating revenues in April were $17,056,398, as compared with $15,041,771 in April, 1936. Operating expenses were $14,807,383, against $13,586,465 in the corresponding month of last year. There was net revenue in April, 1937, of $2,249,015, as compared with $1,455,306 in April, 1936, an increase of $793,709.

For the four months of the present year, operating revenues were $62,033,587, against $55,321,542 last year. Operating expenses for the four months of this year were $57,467,076, compared with $53,789,495 for the corresponding period of 1936. Net revenue for the four-months period of 1937 totaled $4,566,511, an increase of $3,034,464 over the similar period of 1936.

EMPLOYEES OF THE PENNSYLVANIA and the Long Island roads, together with the general public, attended the annual spring flower show of the Pennsylvania Railroad Garden Club held at the Pennsylvania station Y. M. C. A. in New York, on June 1. The major honors of the exhibition were captured by A. J. Miehle, foreman of the Bay Ridge enginehouse at Brooklyn, N. Y.



Southern Pacific Overhauls New Orleans Terminals

(*Continued from page 937*)

was retained as a storage yard for empty cars moving to the line.

The engine terminal, which turns an average of 14 switch engines and 5 road engines daily, includes a 12-stall roundhouse with 9 outside radial tracks, and a wing at the east end that houses the boiler plant, air compressors, pumps, shop machinery, etc.; a small storehouse that also provides space for an office and toilet and locker rooms; together with the fuel, oil and water supply facilities. The roundhouse has a concrete floor, wood frame, and corrugated metal siding and roof. The stalls are equipped with Johns-Manville Transite smoke jacks and the west stall track in the house and the adjacent radial track outside are provided with a common drop pit.

Much of the material used in the enginehouse was second hand material salvaged from old structures that had been released from service elsewhere on the system. This is true also of the two oil-fired locomotive-type boilers, the air compressors and the machine tools installed in the utility wing of the roundhouse. Similarly, a 65,000-gal. water tank on a 30-ft. tower at Algiers was taken down and rebuilt at the Avondale terminal, while the 90-ft. turntable represents the result of building cantilever extensions on the two ends of a shorter table released at another point.

Water Is Clarified and Softened

Water for terminal and locomotive use, amounting to about 160,000 gal. per day, is delivered to the engine terminal through a cast iron pipe line 1⅛ miles long from an existing electrically-operated pumping plant on the river bank. Owing to its content of both dissolved and suspended matter, the raw river water is not suitable for boiler use without clarification and softening. Accordingly, provision was made for clarification by dosing it with aluminum sulphate, with which it is thoroughly mixed by running the water through a baffled trough, whence it is discharged into a shallow settling basin 250 ft. long by 60 ft. wide. After sedimentation the water is passed through a downflow zeolite water softener and is then chlorinated to meet the requirements of the U. S. Public Health Service for use as drinking water. Water is delivered to locomotives through three 10-in. water columns, namely, one on the passenger train main track, another on the east lead to the classification yard, and the third between the two roundhouse lead tracks, where engines can be supplied with water, fuel oil and sand at one spotting.

Fuel oil and sand are delivered on a track that also serves a small stock resting and feeding yard. The oil from tank cars is discharged by gravity in a sump which consists of the tank of an old tank car that was buried alongside the track, whence the oil is pumped into a 100,000-gal. storage tank. Oil in the top seven feet of this tank can be delivered to locomotives by gravity, but the valves and piping on the two pumps that deliver oil to the storage tank are so arranged that they can be used to deliver oil to locomotives. Sand is dried in a steam dryer.

Electric power used in the terminal is purchased from the Louisiana Power and Light Company, being delivered at 6,500 volts and stepped down to 220 volts in transformers at the roundhouse. Flood lights on two towers illuminate the yard, one at the east end equipped with three 1,000-watt lights and the other at the west end of the yard with two lights of the same power. The towers consist of pairs of 90-ft. creosoted poles set on concrete bases.

Construction

The site of the new terminal at Avondale was virtually a swamp, having an average elevation of only about 2½ ft. above mean gulf level, and was overgrown with small timber. In addition to clearing, preparation of the site involved filling to an average depth of about 2½ ft., and required the placing of about 100,000 cu. yd. of earth obtained by train haul from the batture between the levee and the river bank. Sub-drainage of the yard is afforded by a number of creosoted wood box culverts and drains, and several pipe drains made by perforating second-hand 10-in. wrought pipe with an oxy-acetylene torch. The grading was done by Gifford Hill & Co., Dallas, Tex. The track laying and surfacing were done under contract by the William A. Smith Construction Company of Houston, Tex., except that the grading contractor laid part of the passenger main track and one track through the yard that were used for unloading the fill material. The Pittman Construction Company of New Orleans constructed all the buildings. Railroad forces built all tanks and the water and fuel oil facilities.

Train and engine movements at the West Bridge Junction crossing of the bridge tracks and the Texas & Pacific, and of the passenger main track and the line to Algiers, as well as through the turnouts into the yard are controlled by a 32-lever General Railway Signal Company electric interlocking. Movements over the bridge between West Bridge Junction and East Bridge Junction are controlled by automatic signaling with color light signals.

The Avondale yard and contingent projects were planned and constructed under the direction of R. W. Barnes, chief engineer, Southern Pacific, Texas & Louisiana Lines. R. F. Wills, terminal engineer at New Orleans, was in direct charge of construction.

New Haven Files Reorganization Plan

(*Continued from page 943*)

or Old Colony are to be surrendered without any distribution thereon.

Giving effect to the foregoing distribution of reorganization securities, the funded debt and capitalization of the reorganized corporation, including reorganization securities issued in discharge of accrued interest to June 1, 1937, will be as follows:

FUNDED DEBT

	Principal	Fixed Interest	Contingent Interest
Equipment Trust	$13,084,000	$536,410	.....
Underlying Bonds	36,258,000	1,451,730	.....
Fixed Interest Bonds	147,100,800	5,884,032	.....
Income Bonds	47,414,200	.....	$2,133,639
	$243,857,000	$7,872,172	

CAPITAL STOCK

	No. of Shares	Par Value	Maximum Dividends
First Preferred Stock	459,504	$45,950,400	$2,297,520
Second Preferred Stock	434,278	43,427,800	.....
No par common stock	1,182,151	.....	.....
	2,075,933		

Based on studies which have been made, it is estimated that the annual income available for fixed charges of the reorganized corporation in the near future will approximate $14,000,000, as against $12,227,467 in 1936. Of the $14,000,000, approximately $12,000,000 will be available for payment of fixed interest of $7,872,172 as shown above.

New Books...

History of the Brotherhood of Railroad Trainmen, by Walter F. McCaleb. 273 pages. 8 in. by 5½ in. Bound in cloth. Published by Albery & Charles Boni, New York. Price, $2.50.

Crystallizing his material about the life and character of Alexander F. Whitney, president of the brotherhood, Mr. McCaleb presents to the reading public a popular work on the Brotherhood of Railroad Trainmen. This is no routine job of chronological recording of events, but an impassioned glorification of labor organization, its leaders, and its aims. Indeed, it is just on this score that the reader might feel disappointed. His interest in the narrative will never flag, but he will not find the facts that the title of the work leads him to expect. The formative and hence critical years of the brotherhood are treated only as background for the career of Mr. Whitney. It is only the decades of the 1920's and 1930's that receive full treatment.

The book is undoubtedly biased. Mr. McCaleb's feelings, expressed in colorful adjectives such as "dastardly" and "brutal," are not what one has a right to expect in an historical work. His arguments for government ownership, expressed in his narrative of that movement under the Plumb Plan and the earnest nurturing of Warren J. Stone of the engineers, ring false at times, especially when he lauds the war-time excursion by the government into the railroad business with such a panegyric as: "Now, indeed, Uncle Sam, the benevolent, began to pay regular dividends, to restore road-beds, to replace rolling stock and to build bridges and new locomotives, making things ready against the day when the rehabilitated railroads would be obligingly turned back to the railroad bankers. . . ."

However, for a description of the fights for the eight-hour day, the six-hour day, and pensions, complete with abstracts of talks and writings from the labor viewpoint, and a really absorbing biography of Mr. Whitney, this book deserves space on the library shelves of railroaders.

The Locomotive, by Raymond Loewy. 10 in. by 7½ in. Bound in cloth. Published by the Studio Publications, Inc., New York. Price $2.50.

As the latest of a series of photographic collections known as "The New Vision," Mr. Loewy's work exhibits the locomotive as the masterpiece of the work of modern industrial design. Composed entirely of excellent photographs, supplemented by short, pithy criticisms, the collection covers the latest developments in streamlining and "face-lifting" of rail motive power and the evolution of such locomotive appurtenances as smokestack, headlight, reciprocating parts, etc. The selection is international in scope; the motive power of America, Austria, France, Germany, Great Britain, the Netherlands, Norway, Soviet Russia, and the Far East is presented.

The author, who was himself consulting designer in the construction of the Pennsylvania's steam streamliner No. 3768 and the streamlined electric units now in New York-Washington service, deserves commendation for the consistency of his criticisms in insisting upon the preservation of the "steam locomotive feel" and his impatience with strange paint jobs and complicating gadgets. He has, moreover, not allowed consideration of art to submerge completely old-fashioned, common-sense railroading, for he devotes a number of pages to picturization of track work and signaling activities which, he asserts, make the higher speeds of the newer designs of locomotives possible. A typical caption runs as follows: "An early streamliner. Already slightly obsolete front-end treatment, but undoubtedly the pioneer in the field. As in all American trains, careful attention has been given to collision possibilities." This work ought to add strength to the modern movement toward providing motive power which is attractive to the eye as well as efficient in service.

Odds and Ends...

Railroading Premier

The recent appointment of Arthur Baldwin as director of the Great Western of England brings to mind the fact that England's prime minister, Stanley Baldwin, world famous for his recent encounter with ex-King Edward, was also a railroader and of a railroad family. Alfred Baldwin, the prime minister's father, was elected to the board of the Great Western in January, 1901, and became chairman of the company in 1905. The prime minister himself served as a director from 1908 to 1917, and now comes his son, Arthur, to represent the third generation of Baldwins on the board.

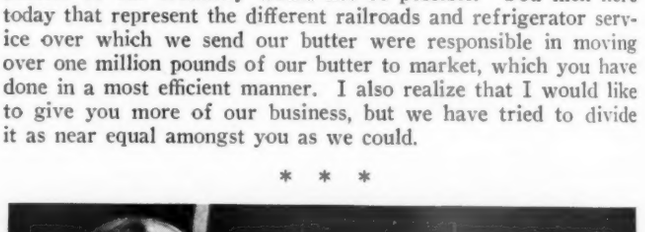
Appreciation

Fritz Lehmberg, manager of the Hills Co-operative Creamery Company, of Hills, Minn., ships over a million pounds of butter yearly. Every pound goes by rail, despite the fact that, on some of the traffic, a sizeable differential could be obtained by routing it via boat for part of the journey. Recently, Mr. Lehmberg decided to reverse the usual proceeding by inviting all of the 16 railway traffic solicitors who call on him to dinner at his house. The unique place cards contained the following statement:

Railroads are the arteries to the whole distributing system of the American way of moving perishable and other freight. Without them perishable food stuff cannot be distributed successfully, especially when we consider long distance hauls.

I realize well enough that without the railroads it would be impossible to transport our butter to our distant markets, and the success of our creamery would not be possible. You men here today that represent the different railroads and refrigerator service over which we send our butter were responsible in moving over one million pounds of our butter to market, which you have done in a most efficient manner. I also realize that I would like to give you more of our business, but we have tried to divide it as near equal amongst you as we could.

* * *



Part of the Exhibit of 100 Model Locomotives, Held in the Union Station, Chicago, Under the Auspices of the Milwaukee Boosters Club.

NEWS

Roads Fight Ban on Wharfage Fees

Philadelphia carriers continue pier charges while city seeks injunction

While the question of jurisdiction is in argument in state public utility commission hearings and in the court of common pleas, the three railroads serving the Port of Philadelphia, Pa., namely the Baltimore & Ohio, the Reading, and the Pennsylvania, are continuing to assess shippers a top wharfage charge of 50 cents per ton on freight, not destined to or from railroad cars, that passes over their respective piers. Shippers and importers, meanwhile, are seeking to restrain the collection of these charges.

In December, 1936, the three roads filed tariffs with the Interstate Commerce Commission and the Public Service Commission of Pennsylvania, providing for the assessment of the top wharfage charge. Protests were filed with the Interstate Commerce Commission, the Public Service Commission of the Commonwealth of Pennsylvania, and the Director of Wharves, Docks and Ferries of the City of Philadelphia. When the matter was considered by the suspension board of the I. C. C., the railroads took the position that the commission had no jurisdiction over the top wharfage charge since the traffic on which the charge was to be assessed did not move in railroad service; whereupon the commission permitted the carriers to withdraw their tariffs. The Public Service Commission of Pennsylvania then suspended the tariffs on file with it and set the matter for oral argument on the question of its jurisdiction. At the oral argument, the railroads and Philadelphia Piers, Inc., took the position that the state commission has no jurisdiction over the charges because top wharfage was a matter which could be regulated solely by Congress, and further, that while under the Shipping Act of 1916, Congress had dealt with top wharfage, the United States Maritime Commission also lacks jurisdiction over the charges assessed by the railroads.

In the meantime, the Director of Wharves, Docks and Ferries of the city of Philadelphia had fixed the matter for another hearing, during which the railroads denied that the director had any jurisdiction over the top wharfage charges. On February 1, the director decided in favor of complainants in the case. In view of the proceeding pending before the Public Service Commission, the railroads took no action concerning this decision.

By report and order dated March 9, the Public Service Commission ruled that it had no jurisdiction over the top wharfage charges and discontinued the suspension proceeding. Upon petition of the carriers, it subsequently permitted the tariffs to be withdrawn on short notice. The railroads thereupon filed a bill in equity with the Common Pleas Court seeking to restrain the Director of Wharves, Docks and Ferries from enforcing his decision and from interfering with the collection of the top wharfage charges. By a decision of May 5, the court held that jurisdiction over the top wharfage charges is vested in the Pennsylvania Public Utility Commission (which body succeeded the Public Service Commission in April, 1937), and restrained the director from interfering with the collection of the charges. In view of the above decision and order, the railroads and Philadelphia Piers, Inc., resumed collection of the top wharfage charges as before.

Since that date, the Director of Wharves, Docks and Ferries of Philadelphia has carried an appeal to the Supreme Court of Pennsylvania. Complaints have also been filed by various individuals and concerns with the United States Maritime Commission and the Pennsylvania Public Utility Commission. The latter body, by order dated May 10, 1937, and served on the railroads on May 21, revoked the report and order of the Public Service Commission, and listed the matter for reargument on the question of jurisdiction, at Harrisburg, Pa., on June 28.

A Philadelphia importer has filed a bill in equity with the Common Pleas Court seeking to restrain the railroads and Philadelphia Piers, Inc., from assessing the top wharfage charge until such time as they have filed tariffs with the Pennsylvania Public Utility Commission and the latter body has approved the wharfage charges. Oral argument on the question of preliminary injunction was heard on June 1.

Telegrams for Travelers

A new service feature for railroad travelers using the Chicago Union Station is a telegram announcement board on which are placed the names of all persons who have telegrams awaiting them. The names are displayed in large letters on the announcement board, which is an addition to the information booth equipment. It is visible from practically any part of the station concourse and is within a short distance of the telegraph office where replies to the telegrams may be quickly filed.

Retirement Bill Report Expected

R. V. Fletcher urges action in time to make new law effective July 1

Committee consideration of the Wagner-Crosser railroad retirement bill had early this week progressed to the point where it was anticipated that the measure would be before Congress by the end of the week. The House committee on interstate and foreign commerce, completing public hearings on May 21, has since considered the bill and proposed amendments in executive sessions, and was expected to have it in shape for reporting on Thursday or Friday. Meanwhile the sub-committee of the Senate interstate commerce committee which has the bill under consideration has completed its hearings.

Appearing before the latter on June 1, Judge R. V. Fletcher, vice president and general counsel of the Association of American Railroads, said that it is "highly important" that the bill be enacted to become effective by July 1. Such a date was contemplated when the measure was framed, Judge Fletcher continued, adding that "many features will be thrown badly out of kelter" if there is delay beyond that time. Judge Fletcher's testimony before the Senate sub-committee followed that of Charles M. Hay, counsel for the committee of the Railway Labor Executives Association which negotiated the pension agreement with the management committee.

Mr. Hay introduced an exhibit which set up in parallel columns various major features of the present retirement act and of the proposed bill. These he explained in considerable detail, and also offered an amendment designed to meet the objections of senators and representatives to that provision of the bill which would permit the Railroad Retirement Board to recruit its force without reference to requirements of the civil service laws. It had been the expressed hope of Chairman George M. Harrison of the Railway Labor Executives Association in this connection that furloughed railway men would obtain jobs with the board. Various representatives and senators had advised, however, that the bill as written would defeat this purpose by leaving the door open to political appointments. Thus the amendment proposed by Mr. Hay would have the effect of placing the Board's employees under civil service while giving a preference to

(*Continued on page 958*)

$193,982,091 Net for Four Months

2.89 per cent return compares with $145,936,803 or 2.18 per cent in 1936

Class I railroads of the United States in the first four months of 1937 had a net railway operating income of $193,982,091 which was at the annual rate of return of 2.89 per cent on their property investment, according to the Bureau of Railway Economics, Association of American Railroads. In the first four months of 1936, their net railway operating income was $145,936,803 or 2.18 per cent, and in 1930 it was $233,942,444 or 3.51 per cent.

CLASS I RAILROADS—UNITED STATES

Month of April

	1937	1936	1930
Total operating revenues	$351,573,368	$313,366,439	$445,523,063
Total operating expenses	262,018,966	235,040,412	344,194,247
Taxes	30,734,480	25,796,690	29,495,407
Net railway operating income	47,807,447	41,493,455	60,882,332
Operating ratio—per cent	74.53	75.00	77.26
Rate of return on property investment—per cent	2.80	2.43	3.61

Four Months Ended April 30

	1937	1936	1930
Total operating revenues	$1,382,997,566	$1,221,113,269	$1,761,623,106
Total operating expenses	1,026,101,346	939,203,524	1,370,341,285
Taxes	119,652,292	94,557,412	116,253,004
Net railway operating income	193,982,091	145,936,803	233,942,444
Operating ratio—per cent	74.19	76.91	77.79
Rate of return on property investment—per cent	2.89	2.18	3.51

Gross operating revenues for the four months totaled $1,382,997,566 compared with $1,221,113,269 for the same period in 1936, and $1,761,623,106 in 1930, an increase of 13.3 per cent above 1936, but 21.5 per cent below 1930. Operating expenses for the first four months totaled $1,026,101,346, 9.3 per cent above 1936's $939,203,524 but 25.1 per cent below 1930's $1,370,341,285.

Class I roads in this year's first four months paid $119,652,292 in taxes compared with $94,557,412 in the same period in 1936, and $116,253,004 in 1930. For April alone, the tax bill amounted to $30,734,480 an increase of $4,937,790 or 19.1 per cent above April, 1936. Twenty Class I roads failed to earn expenses and taxes in the first four months of 1937, of which six were in the Eastern district, one in the Southern district, and thirteen in the Western district.

For April alone the net railway operating income was $47,807,447, at the annual rate of return of 2.8 per cent; in April, 1936, it was $41,493,455 or 2.43 per cent, while in April, 1930, it was $60,882,332 or 3.61 per cent.

Gross operating revenues for April amounted to $351,573,368 compared with $313,366,439 in April, 1936, and $445,523,063 in April, 1930. Operating expenses totaled $262,018,966 compared with $235,040,412 in the same month in 1936, and $344,194,247 in 1930.

Class I roads in the Eastern district for the four months had a net railway operating income of $125,209,794, at the rate of 3.76 per cent; for the same period in 1936 their net was $100,974,048 or 3.05 per cent while in 1930 it was $134,459,050 or 4.18 per cent. Gross in the Eastern district for the four months totaled $708,852,527, an increase of 12.1 per cent compared with 1936, but a decrease of 20.2 per cent compared with 1930. Operating expenses totaled $503,021,356, an increase of 8.1 per cent above the same period in 1936, but a decrease of 26 per cent under 1930.

In the Eastern district the April net railway operating income was $31,694,817 compared with $29,786,312 in April, 1936, and $37,110,656 in April, 1930.

Class I roads in the Southern district reported for the four months a net railway operating income of $30,472,437, at the rate of 2.75 per cent; for the same period in 1936, their net was $22,671,578, or 2.04 per cent, and in 1930 it was $32,884,884, or 2.83 per cent. Gross operating revenues in the Southern district for the first four months amounted to $183,599,881 an increase of 13.4 per cent compared with the same period in 1936, but a decrease of 22.5 per cent under the same period in 1930. Operating expenses totaled $132,577,321, an increase of 7.9 per cent above last year, but a decrease of 28.2 per cent under 1930.

The April net in the Southern district was $7,480,096 compared with $5,504,658 in April, 1936, and $7,970,597 in April, 1930.

In the Western district the net railway operating income for the first four months was $38,299,860 at the rate of 1.68 per cent; for the same four months in 1936, it was $22,291,177, or 0.98 per cent, and in 1930 it was $66,598,510 or 2.92 per cent. Gross in the Western district for the four months' period amounted to $490,545,158, an increase of 15 per cent above the same period in 1936, but a decrease of 23 per cent under the same period in 1930. Operating expenses totaled $390,502,669, an increase of 11.3 per cent compared with the same period in 1936, but a decrease of 22.8 per cent under the same period in 1930.

For April alone, the roads in the Western district reported a net railway operating income of $8,632,534 compared with $6,202,485 in April, 1936, and $15,801,079 in April, 1930.

Southern Pacific Testing Mitered Rail Ends

Mitered rail ends are being tested by the Southern Pacific in a two-mile stretch of track between Neviska, Ariz., and Avra, on the main line of its Sunset Route, to determine the possibility of reducing noise and rail end wear.

Probers Look Into C.G.W. Financing

Senator Wheeler's committee begins investigation of Bremo Corporation

Senator Wheeler's subcommittee investigating the financing of railroads and railroad holding companies resumed hearings on June 2 with the committee investigators questioning Patrick H. Joyce, former president and now co-trustee of the Chicago Great Western in reorganization under the Bankruptcy Act. Senator Truman presided at the hearing in the absence of Senator Wheeler, who was out of town. Mr. Joyce was questioned briefly regarding his former activities. He testified that he was formerly president of the Illinois Steel Car and Mfg. Co. and later president of the Standard Steel Car Co. From the latter position he became a director and president of the Chicago Great Western. Mr. Joyce described the territory covered by the road and the type of traffic handled, saying that the largest tonnage was petroleum.

Another witness at the hearing was Richard O'Hara, former manager of transportation for Swift & Co. and at present president of the International Rail-Weld Corporation, who told the committee that the reason that he and his associates bought into the Chicago Great Western was that he felt that the road was mismanaged and that it had great potentialities if the management was changed. He severely criticized S. M. Felton, who was the former president of the road, and said that Mr. Felton drove more traffic away from the road than the traffic solicitation department could get. Questioned as to whether or not either he or his associates had ever had any actual railroad experience, Mr. O'Hara asserted that many traffic managers are better qualified to manage railroads than are many of the present managers.

Later it was developed that the Bremo Corporation was formed to give the members of Mr. Joyce's syndicate evidence of ownership of Chicago Great Western stock and also to limit liability in case of loss of any kind. Mr. Joyce agreed that the Chicago Great Western had not paid any dividends on preferred since 1919.

Senator Truman interrupted the hearings to say that he did not feel that railroad control should be obtained on margin. The committee investigators had been trying to show that Mr. Joyce and the syndicate had bought control of the road through a margin account at Paine, Webber & Co., brokers of New York City. Mr. Joyce and Mr. O'Hara vehemently denied that this was so, and contended that they had put up large amounts of cash to purchase the stock.

C. & O. Station Burns

The Chesapeake & Ohio's freight station at Lexington, Ky., was destroyed by fire on May 25, according to press reports. The damage was estimated to be $200,000.

The "Iron Horse" a Heavy Drinker

Railroads use 600 billion gal. of water annually for steam and other purposes

Approximately 600 billion gallons of water are required annually to quench the thirst of the "Iron Horse" and for other purposes in connection with the operation of the railroad systems of this country, according to the Association of American Railroads.

This quantity of water, the A. A. R. statement says, would be sufficient to fill a channel one hundred yards wide and nine feet deep, extending from New York to San Francisco, Calif., and return. If spread over the ground to a depth of one foot and frozen, it would provide a skating rink nearly 54 miles square. It would meet the needs of the inhabitants of New York City for two years, or a city the size of Washington, D. C., for seventeen years. In volume and weight, the quantity of water used by the railroads each year is greater than all other materials combined.

In order to provide the kind of water necessary to meet their needs, the railroads spend approximately $50,000,000 each year. The cost of replacing their 18,000 existing water stations would be in excess of $400,000,000.

More than one-half of the water required is used for steam purposes. By the chemical treatment of this water to remove harmful ingredients which cause rust and scale to form on the inside of locomotive boilers, the railroads "have brought about increased safety and efficiency in operation as well as a saving of millions of dollars annually."

The railroads are now participating in a series of scientific studies to determine what further improvements can be made in their water supply. Some of these studies are being made at the Experimental Station of the United States Bureau of Mines at New Brunswick, N. J., while others are under way at Ohio State University, at the University of Michigan and on many of the railroads.

Chemical treatment of water began on the railroads of this country about 1891. The statement points out that since that time, through scientific research, improved methods of counteracting the effects of the various harmful ingredients to be found in water have been developed. By improving the quality of water used for steam purposes, along with the many improvements that have been made in locomotive construction, locomotive efficiency has been greatly increased. Not only has it resulted in the increased conservation of fuel, but the life of locomotive fire boxes and flues has been doubled, and in many instances trebled, while the number of miles between engine failures due to boiler conditions is now more than five times as great as it was eight years ago. In the latter connection there is cited a report recently made by one large road which operates under typical conditions existing today. The report shows that in 1935 the road had no engine failure in more than 25,000,000 engine-miles, and that there had been only one engine failure caused by water quality in 80,000,000 miles in the past four years. Similar results have been reported by other railroads.

The statement also tells how the railroads, by increasing the space available for water in locomotive tenders, have been able to reduce the number of stops as well as the number of water stations required.

Shafer Resigns as Rate Expert of Illinois Commission

George H. Shafer, chief transportation rate expert for the Illinois Commerce Commission since 1930, has resigned effective July 1, to become general traffic manager of the Weyerhauser Lumber Company, in which capacity he will be located at St. Paul, Minn.

Results for March Bring Net Income

Produce $14,135,752 balance after fixed charges for first quarter

Class I railways for the first three months of this year reported a net income, after fixed charges and other deductions, of $14,135,752 as compared with a net deficit of $27,575,501 for the first quarter of 1936, according to the Interstate Commerce Commission's monthly compilation of selected income and balance sheet items. It was March's net of $24,460,676 which brought the quarter's favorable results, since the net deficit at the end of February stood at $10,324,925. In March of last

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 136 Reports (Form IBS) Representing 142 Steam Railways
TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of March 1937	For the month of March 1936	*Income Items*	For the three months of 1937	For the three months of 1936
$69,379,328	$35,152,477	1. Net railway operating income	$146,174,643	$104,443,349
10,054,911	12,033,251	2. Other income	31,939,307	34,112,951
79,434,239	47,185,728	3. Total income	178,113,950	138,556,300
1,852,426	1,479,491	4. Miscellaneous deductions from income	5,450,533	4,567,756
77,581,813	45,706,237	5. Income available for fixed charges	172,663,417	133,988,544
		6. Fixed charges:		
11,301,138	11,151,320	6-01. Rent for leased roads	32,745,175	33,097,030
40,575,865	41,546,916	6-02. Interest deductions	121,973,345	124,781,224
236,803	220,816	6-03. Other deductions	702,150	656,296
52,113,806	52,919,052	6-04. Total fixed charges	155,420,670	158,534,550
25,468,007	*7,212,815	7. Income after fixed charges	17,242,747	*24,546,006
1,007,331	999,831	8. Contingent charges	3,106,995	3,029,495
24,460,676	*8,212,646	9. Net income†	14,135,752	*27,575,501
16,286,886	16,220,723	10. Depreciation (Way and structures and Equipment)	48,595,745	48,384,843
4,027,357	1,522,338	11. Federal income taxes	9,254,399	4,977,797
		12. Dividend appropriations:		
1,452,393	2,482,588	12-01. On common stock	18,723,381	19,091,914
744,237	419,325	12-02. On preferred stock	4,009,648	4,026,917

Selected Asset Items	Balance at end of March 1937	Balance at end of March 1936
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$687,622,994	$695,722,091
14. Cash	501,298,998	445,817,442
15. Demand loans and deposits	8,651,743	4,691,223
16. Time drafts and deposits	42,940,265	30,281,892
17. Special deposits	205,233,037	140,933,191
18. Loans and bills receivable	11,861,654	2,596,340
19. Traffic and car-service balances receivable	73,286,273	61,047,374
20. Net balance receivable from agents and conductors	56,007,922	45,622,851
21. Miscellaneous accounts receivable	146,845,349	140,171,947
22. Materials and supplies	361,450,338	294,281,811
23. Interest and dividends receivable	22,963,121	24,288,836
24. Rents receivable	1,788,517	2,218,461
25. Other current assets	6,580,478	5,780,722
26. Total current assets (items 14 to 25)	$1,438,907,695	$1,197,732,090
Selected Liability Items		
27. Funded debt maturing within 6 months‡	$202,315,189	$328,027,782
28. Loans and bills payable§	211,168,510	309,318,110
29. Traffic and car-service balances payable	89,753,881	74,211,194
30. Audited accounts and wages payable	257,755,322	221,647,107
31. Miscellaneous accounts payable	124,079,382	79,414,204
32. Interest matured unpaid	580,032,331	456,802,388
33. Dividends matured unpaid	12,924,530	13,441,119
34. Funded debt matured unpaid	487,438,388	413,922,675
35. Unmatured dividends declared	1,818,835	1,542,032
36. Unmatured interest accrued	101,979,823	105,585,884
37. Unmatured rents accrued	30,231,118	31,166,998
38. Other current liabilities	26,714,862	26,647,292
39. Total current liabilities (items 28 to 38)	$1,923,896,982	$1,733,699,003
40. Tax liability (Account 771):		
40-01. U. S. Government taxes	$120,516,149	$44,871,787
40-02. Other than U. S. Government taxes	131,824,428	134,218,138

† The net income as reported includes charges of $3,291,834 for March, 1937, and $9,490,055 for the three months of 1937, $1,451,574 for March, 1936, and $4,293,923 for the three months of 1936 on account of accruals for excise taxes levied under the Social Security Act of 1935; also $4,816,181 for March, 1937, and $13,543,546 for the three months of 1937, $3,864,104 for March, 1936, and $4,014,832 for the three months of 1936 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

‡ Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within six months after close of month of report.

§ Includes obligations which mature not more than 2 years after date of issue.

* Deficit or other reverse items.

NET INCOME OF LARGE STEAM RAILWAYS WITH ANNUAL OPERATING REVENUES ABOVE $25,000,000

Name of railway	Net income after deprec. For the three months of 1937	Net income after deprec. For the three months of 1936	Net income before deprec. For the three months of 1937	Net income before deprec. For the three months of 1936
Alton R. R.	$26,285	* $419,694	$114,165	* $338,037
Atchison, Topeka & Santa Fe Ry. System§	1,047,073	* 1,434,392	3,853,374	1,401,134
Atlantic Coast Line R. R.	2,717,604	1,392,008	3,229,500	1,930,112
Baltimore & Ohio R. R.	29,419	* 2,620,430	1,836,835	* 767,687
Boston & Maine R. R.	495,703	* 1,910,079	894,248	* 1,498,999
Central of Georgia Ry.†	* 327,384	* 688,541	* 131,391	* 495,968
Central R. R. of New Jersey	* 675,597	* 813,856	* 312,571	* 429,800
Chesapeake & Ohio Ry.	8,366,450	9,271,285	10,419,128	11,383,374
Chicago & Eastern Illinois Ry.‡	102,275	* 249,095	250,624	* 99,423
Chicago & North Western Ry.‡	* 4,650,934	* 4,753,114	* 3,410,247	* 3,498,849
Chicago, Burlington & Quincy R. R.	1,182,611	932,350	2,380,353	2,082,248
Chicago Great Western R. R.‡	* 380,824	* 780,399	* 249,840	* 657,433
Chicago, Milwaukee, St. Paul & Pacific R. R.‡	* 3,803,043	* 4,338,478	* 2,452,806	* 2,990,726
Chicago, Rock Island & Pacific Ry.‡	* 3,314,378	* 4,511,611	* 2,295,176	* 3,432,983
Chicago, St. Paul, Minneapolis & Omaha Ry.	* 1,097,392	* 1,019,386	* 949,230	* 869,552
Delaware & Hudson R. R.	* 70,716	* 503,610	196,067	* 222,685
Delaware, Lackawanna & Western R. R.	* 95,902	* 651,915	536,574	16,780
Denver & Rio Grande Western R. R.‡	* 1,330,184	* 1,081,767	* 1,043,039	* 792,504
Elgin, Joliet & Eastern Ry.	545,911	312,490	767,003	538,185
Erie R. R. (including Chicago & Erie R. R.)	633,762	* 172,167	1,587,467	802,801
Grand Trunk Western R. R.	2,534	182,950	258,547	494,346
Great Northern Ry.	* 3,702,275	* 4,128,889	* 2,796,786	* 3,197,341
Illinois Central R. R.	* 1,048,635	* 616,960	543,217	1,038,875
Lehigh Valley R. R.	* 121,011	* 692,124	449,202	* 115,589
Long Island R. R.	* 1,017,255	* 517,302	* 724,155	* 220,695
Louisville & Nashville R. R.	1,651,165	1,505,442	2,702,308	2,551,776
Minneapolis, St. Paul & Sault Ste. Marie Ry.	* 1,949,281	* 1,913,131	* 1,639,876	* 1,606,159
Missouri-Kansas-Texas Lines	* 367,342	* 885,508	* 71,731	* 564,262
Missouri Pacific R. R.‡	* 2,319,265	* 3,048,769	* 1,227,597	* 1,996,584
New York Central R. R.¶	5,295,094	* 1,041,181	9,294,793	3,004,636
New York, Chicago & St. Louis R. R.	965,953	475,122	1,370,537	862,415
New York, New Haven & Hartford R. R.‡	* 659,285	* 2,512,582	197,813	* 1,657,705
Norfolk & Western Ry.	8,220,571	7,460,567	9,385,282	8,580,434
Northern Pacific Ry.	* 1,860,247	* 3,026,386	* 1,054,876	* 2,245,476
Pennsylvania R. R.	5,148,165	2,359,564	11,227,136	7,648,424
Pere Marquette Ry.	585,525	481,452	1,224,688	1,116,958
Pittsburgh & Lake Erie R. R.	1,001,647	656,164	1,429,907	1,107,111
Reading Co.	2,049,796	1,238,660	2,826,570	2,039,541
St. Louis-San Francisco Ry.‡	* 2,047,416	* 2,261,874	* 1,260,504	* 1,453,876
St. Louis Southwestern Lines‡	* 219,542	* 26,261	* 68,054	125,595
Seaboard Air Line Ry.†	* 315,096	* 1,588,707	157,966	* 1,118,747
Southern Ry.	1,506,977	* 209,622	2,294,848	602,443
Southern Pacific Transportation System‖	794,843	* 1,862,983	2,777,528	108,898
Texas & Pacific Ry.	494,839	238,657	787,239	529,855
Union Pacific R. R.	1,083,458	1,221,030	2,736,878	2,807,578
Wabash Ry.†	* 115,138	* 549,547	415,554	* 14,125
Yazoo & Mississippi Valley R. R.	78,113	* 257,312	199,092	* 130,499

† Report of receiver or receivers.
‡ Report of trustee or trustees.
§ Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.
¶ Includes Boston & Albany, lessor to New York Central R. R.
‖ Includes Southern Pacific Company and Texas & New Orleans R. R. The operation of all separately operated solely controlled affiliated companies, resulted in a net deficit of $749,425 for three months of 1937 and $1,024,726 for three months of 1936. These figures are not reflected in this statement.
* Deficit.

year a net deficit of $8,212,646 was reported.

Eighty-nine roads reported a net income in March, while 44 reported deficits; for the three-months period 71 reported net income and 62 net deficits. The commission's statements, including that showing the net income of roads having annual operating revenues above $25,000,000, are given in the accompanying tables.

Would Abolish R. F. C.

Senator Byrd of Virginia has introduced in the Senate a bill (S. 2529) to abolish the Reconstruction Finance Corporation and transfer its functions to the Department of the Treasury.

Williams Made Rate Expert of Mississippi Commission

J. W. Williams, district supervisor of the Bureau of Motor Carriers of the Interstate Commerce Commission, has been appointed rate expert of the Mississippi Railroad Commission, effective June 1, succeeding M. C. Moore, who has resigned because of ill health, after 23 years of service with the commission.

Long Island Hero Honored

Walter J. Scharf, fireman on the Long Island was presented with a heroic service medal on June 2 for saving the life of a trespasser the early part of this year. The presentation was made by M. W. Clement, president of the Pennsylvania and Long Island, following the monthly meeting of the Board of Directors of the latter road in Pennsylvania Station, New York.

Club Meeting

The Railway Club of Toronto, Ont., will hold its annual summer outing and dinner at the Royal Connaught Hotel, Hamilton, Ont., on June 5. The program includes a golf tournament at the Dundas Valley Golf and Country Club and a trip through the plants of the Dominion Foundries & Steel, Ltd. The guest speaker at the dinner will be the Hon. Mitchel F. Hepburn, Prime Minister of Ontario.

Hearing on Consolidation of Six Roads Postponed

Hearing of testimony in the proposed consolidation of the Illinois Terminal Railroad, the Illinois Traction Company, the St. Louis, Troy & Eastern, the Alton & Eastern, the St. Louis & Illinois Belt and the Alton Terminal Railway has been postponed until June 23 by the Illinois Commerce Commission upon request of the companies involved. The consolidated corporation also wishes to acquire properties of the St. Louis Electric Terminal Railway and the McKinley Bridge over the Mississippi river now owned by the Illinois Power & Light Corporation. The consolidation actually is a reorganization project, as the stock of these companies is held in common interest by stockholders. A refinancing is also proposed.

Advisory Board Meetings

The forty-eighth regular meeting of the Trans-Missouri-Kansas Shippers Board will be held at Wichita, Kan., on June 9. The program provides for a special discussion of pertinent factors relating to the season's wheat crop and a joint luncheon with the Southern Kansas Millers Club, the Wichita Board of Trade, the Wichita Chamber of Commerce and the Wichita Traffic Club, at which Carl R. Gray, president of the Union Pacific, will be the principal speaker.

The Central Western Board will meet on June 19, at Glenwood Springs, Colo.

Trucking Zones of New York, Chicago and St. Louis

The Interstate Commerce Commission has postponed until July 1 the effective dates of its orders prescribing boundaries of commercial zones for New York, Chicago and St. Louis, Mo., wherein motor vehicle operations will be exempt from regulatory provisions of the motor carrier act, other than those relating to maximum hours of service of employees and safety of operation or standards of equipment. This is the second successive postponement of a month which has been granted in these cases.

Stamp Speaks at N. Y. Office of British Railways

In celebration of the opening of the new offices of the Associated British and Irish Railways at 9 Rockefeller Plaza, New York, there was held a luncheon and reception at the Hotel Gotham, New York, on May 25. Sir Josiah Stamp, president of the associated railways and of the London, Midland & Scottish (Great Britain), addressed the gathering on recent activities of British railways and, specifically, pointed out that the British railways had a total capitalization of five billion dollars, or one-sixteenth of the national wealth of Great Britain. As announced previously, the new offices of the Associated British and Irish railways will be in charge of C. M. Turner, acting general traffic manager.

British Railroaders Receive Coronation Honors

Among the recipients of royal honors at the recent British coronation were several distinguished railway officers. The Right Hon. Sir R. S. Horne, K.C., M.P., chairman of the board of the Great Western, was made a viscount. Those granted the rank of Knights Batchelor were Henry Chapman, resident director and general manager of the Rhodesian Railways; V. E. D. Jarrad, agent for the Bengal-Nagpur (British India); Joshua Scholefield, K.C., chairman of the Railway Assessment Authority; and M. V. Wood, senior vice-president of the London, Midland & Scot-

tish. Sir T. G. Russell, chief commissioner of railways, India, became a Knight Commander of the Indian Empire.

Railroaders Elected to Industrial Board Posts

Several men engaged in the railroad and affiliated fields were elected to officerships in the National Industrial Conference Board at the 21st annual meeting last week, at the Waldorf-Astoria Hotel, New York. Those elected members of the board's executive committee were: J. F. Deasy, vice-president, Pennsylvania; W. C. Dickerman, president, American Locomotive Company; and J. F. Loree, vice-president, Delaware & Hudson. Those elected as councillors to the conference board were: E. G. Grace, president of the Bethlehem Steel Company; L. F. Loree, president of the Delaware & Hudson; and G. M. Verity, chairman of the American Rolling Mill Company.

Hiawatha Completes Two Years of Service

"A financial success at the tender age of two" is the expression used by the Chicago, Milwaukee, St. Paul & Pacific in calling attention to the completion of two years of service by the Hiawatha between Chicago and the Twin Cities on May 29. During this period the train carried more than 550,000 paying passengers, and its gross revenues exceeded $2,600,000. During 1936, gross earnings of the Hiawatha, and overflow sections operated frequently, amounted to $3.62 a train-mile. Operating costs, including interest and depreciation, were $1.13 a train-mile, leaving net earnings of $2.49 a mile. However, a proportionate share of track expenses, taxes, solicitation and miscellaneous costs are not taken into consideration.

"A Day on the Farm" Excursion

"A Day on the Farm" excursion, which will afford city dwellers an opportunity to watch actual farm operations and take part in out-of-doors sports on a 1,500 acre farm in southern Michigan, will be operated by the New York Central from Chicago to Vandalia, Mich., and return, on June 13. On this day, the operator of Elk Park Farm will carry on regular work for the benefit of spectators who have not seen such operations. In addition, there will be hay rides, horse shoe pitching, soft ball games and other entertainment, as well as an opportunity to inspect an elk herd and other live stock on the farm. Round trip tickets, costing less than two cents a mile, include a barbecue dinner served in the open and an evening lunch on the train.

T. & P. Affiliate Authorized to Acquire Highway Rights

The Interstate Commerce Commission, Division 5, has authorized the Texas & Pacific Motor Transport Company, highway subsidiary of the Texas & Pacific, to acquire from W. A. Johnson and the Fort Worth Warehouse & Storage Company highway operating rights which will give the railroad affiliate a continuous route between Dallas, Texas, and Big Spring. The authorization is on condition that it "shall not be construed to include the right of rendering service from, to, or interchanging traffic at, any point other than a station on the Texas & Pacific; and shall be subject to such further limitations or restrictions as this commission may hereafter find it necessary to impose in order to insure that the service shall be auxiliary or supplementary to the train service of said railway company and shall not unduly restrain competition."

Pick A.A.R. Contest Winners

The competition held this year by the Purchases and Stores Division, A.A.R., for papers on purchasing and stores department operations, resulted in the awarding of honors equally to J. O. Brophy, chief clerk, stores department, Canadian National, Port Mann, B. C., and Emmet J. Dennedy, stock clerk, division storekeeper, Baltimore & Ohio, Ivorydale, Ohio. Mr. Brophy's paper was entitled "Constructive Thinking," while the subject of Mr. Dennedy's paper was "The Supply Department and Public Relations." These papers will be presented by their authors at the annual meeting of the division. In the same competition, honorable mention was awarded to Dana Phillips, clerk, purchasing department, Boston & Maine; Ralph K. Hess, stock book inspector, general storekeeper's office, Pennsylvania; and A. S. Simpson, stockman, stores department, Canadian National.

Burlington's Chicago-Denver Traffic Increases

An increase of 60 per cent in through passenger traffic between Chicago and Denver, Col., is reported by the Chicago, Burlington & Quincy upon the first anniversary of the inauguration of Zephyr service between these cities. The service was established on May 31, 1936, when the original Zephyr and the "Mark Twain," three-car trains, were placed in service on a fast schedule. On November 8 they were supplanted by 12-car Zephyrs. During the year of their service, Denver Zephyrs have carried 99,078 passengers, have accumulated a mileage of 748,089 and out of 730 trips, wherein the average speed has been 65 miles per hour, 667 have been completed on time. Up to and including May 30, all Burlington Zephyrs have accumulated a record of 2,775,092 in service train miles. They travel 5,903 miles per day, more than two million miles per year, through eight different states.

Proposes Safety Appliance Act Amendments

Representative Hill of Oklahoma has introduced in the House of Representatives a bill (H.R. 7337) to amend the federal safety appliance act so as to facilitate recovery in civil suits for injuries sustained by railway employees.

The bill would make railroads liable for damages to be recovered by civil action by any injured employee or his heirs when the injury resulted "in whole or in part" from any unit of rolling stock operated "contrary to the provisions of this act." Under another provision no employee injured or killed could be held to have been guilty of contributory negligence; and any rule or contract exempting the carrier from liability would be void. Also the bill would make the jurisdiction of state and federal courts concurrent, stipulating that "no case arising under this act and brought in any state court of competent jurisdiction shall be removed to any court of the United States."

Davis of Stevens Institute A.S.M.E. Presidential Nominee

Nominations for officers of the American Society of Mechanical Engineers for 1938, as announced by the nominating committee at Detroit, Mich., during the semi-annual meeting of the Society, May 17 to 21, are the following: for president, H. N. Davis, president, Stevens Institute of Technology, Hoboken, N. J.; for vice-president, to serve one year, F. O. Hoagland, master mechanic, Pratt & Whitney Division, Niles Bement-Pond Co., Hartford, Conn.; for vice-presidents, to serve two years, B. M. Brigman, Dean, Speed Scientific School, University of Louisville, Louisville, Ky.; Harte Cooke, mechanical engineer, American Locomotive Company, Diesel Engine Division, Auburn, N. Y.; W. H. McBryde, consulting engineer, San Francisco, Calif., and L. W. Wallace, director, equipment research, Association of American Railroads, Chicago; for managers, to serve three years, Carl Bausch, vice-president, Bausch & Lomb Optical Co., Rochester, N. Y.; S. B. Earle, dean, School of Engineering, Clemson A. & M. College, Clemson College, S. C., and F. H. Prouty Brothers Engineering Co., Denver, Colo.

Motor Carriers May No Longer Be in Doubt as to Status

The Interstate Commerce Commission last week rescinded its notice of February 13, 1936, which advised motor carriers submitting initial rates under the motor carrier act to file both tariffs as common carriers and schedules of minimum charges as contract carriers if they were in doubt as to the status of their operations. This notice, last week's announcement says, was issued because of the emergency resulting at the time from the requirements of the motor carrier act, which emergency no longer exists. Some motor carriers, it added, have recently attempted under the old notice to file rates and charges for both common and contract carrier operation.

The rescinding notice stipulates that "Any carrier who elected to file initial rates and charges either as a common carrier or as a contract carrier only, may not now engage in dual operation and file charges both as a contract and a common carrier. If such a carrier now desires to begin dual operation it will be necessary for it to file a formal application and await action of the commission thereon before beginning such operation."

Two Unions Agree to Delay in Pushing Inspection Laws

An agreement, worked out by a committee of the Association of American Railroads and the American Train Dispatchers Association, was approved by

members of the Association of American Railroads at a special meeting in Chicago on May 27, and will be placed in operation immediately. The dispatchers agreed not to press two bills in Congress which would have provided for inspection of dispatcher operations and the railroads agreed to certain working conditions and hearings on complaints. The agreement also provides that should a carrier fail to settle differences within 30 days, the issue will be brought before a national committee, and if that body fails, the matter will be submitted to J. J. Pelley, president of the Association of American Railroads, and the president of the dispatchers union. The agreement is to continue in effect for a year and covers the 2,000 members of the union and about as many dispatchers or carriers which do not have union agreements.

An informal six months' agreement has been reached with the Brotherhood of Maintenance of Way Employees. The brotherhood agrees to defer indefinitely, pending further developments, any action in support of the track and bridge inspection bill now before Congress. The railroads have agreed to adjust certain working conditions.

Milwaukee Adds Fast Train

High speed passenger service in air-conditioned cars was inaugurated by the Chicago, Milwaukee, St. Paul & Pacific on May 28 between Chicago and Iron Mountain, Mich. Heretofore, this territory has been served solely by local trains and, as a result of the new service, as much as two hours were clipped from former schedules. Hauled by a brightly hued streamlined, steam locomotive, the new train, named "The Chippewa" because of the Indian lore associated with the territory served, leaves Chicago at 1:15 p.m., and arrives in Iron Mountain at 7:30 p.m. The streamlined locomotive is used between Chicago and Milwaukee, while a conventional type locomotive is used north of that point, on a schedule which provides for stops at Plymouth, Wis., Elkhart Lake, Hilbert, Green Bay and four other stops north of Green Bay. Southbound, the train leaves Iron Mountain at 3:15 p.m. and arrives in Chicago at 9:40 p.m. All cars of the Chippewa are air conditioned, including coaches, parlor cars and dining cars.

When the train was placed in service, a race between fast-flying homing pigeons and the new train were part of the inaugural ceremonies. As the train left the Chicago station, six homing pigeons were released and their arrival checked in Green Bay, 200 miles distance, by pigeon fanciers and railroad employees. The train and pigeons left at the scheduled time and the train arrived in Green Bay at 5:04 p.m., an hour and 26 minutes ahead of the first pigeon.

Activities of Railroad Fans

The Railway & Locomotive Historical Society, New York chapter, will hold its second annual dinner on June 10 at the Roger Smith restaurant, 40 East Forty-first street, New York, at 7 p.m. The speakers will be: J. M. Fitzgerald, vice-chairman, Committee on Public Relations of the Eastern Railroads, who will speak upon "The Romance of the Rails," and Joseph Brocco, director of research and presentation, Museum of Science and Industry, New York, whose subject will be, "The Newest in the Family of Museums." There will also be presented a program of motion pictures relating to railroad matters. Reservations for the dinner may be obtained from R. C. Schmid, P. O. Box 434, Grand Central Annex, New York.

A new division of Railroad Enthusiasts, Inc., has been formed at Hartford, Conn. The first meeting is to be held on June 10 in the office of William H. Brooks, superintendent of the New Haven, at Union station, Hartford. Full information on the new division may be obtained from the secretary, William B. O'Leary, 581 Capitol avenue, Hartford.

The next meeting of the Washington (D. C.) Division, Railroad Enthusiasts, Inc., will be held on Saturday evening, June 12, at 8 o'clock, in room 1030 of the Transportation building, 17th and H streets, N. W. The principal speaker will be James M. Kimball, who will present an illustrated talk on the "Early Development of the Locomotive." Following this, several members of the Division are scheduled to make brief talks on their experiences in railroad work.

A.A.R. Poster Publicizes Atlantic City Exhibit

Large color tone posters announcing that the Atlantic City convention of the Mechanical and Purchases and Stores Divisions of the A.A.R. and exposition of the Railway Supply Manufacturers' Association are to be open to the public on Saturday and Sunday, June 19 and 20, are in distribution by the Association of American Railroads to railroads and supply manufacturers, in order to boost public interest in railroading matters. As reported in the *Railway Age* of May 29, page 918, eastern railroads have made available special round-trip rates to Atlantic City on that week-end which include admission to the exhibits on presentation of the return coupon.

This A.A.R. placard is intended to supplement in a measure the leaflets and fliers already published by the participating carriers. A crayon print in black, blue, and white, the poster, which measures 27 by 19 inches, depicts the onrush of a steam and a Diesel locomotive, side by side, un-

RAILROAD EXPOSITION
ATLANTIC CITY
June 19-20
Special
EXCURSION FARES
Consult Agent for Details
FASCINATING • SCIENTIFIC • EDUCATIONAL
The latest in railroading. Modern equipment and power — steam, electric, Diesel. New products of research. New appliances and devices • America's greatest
Railroad Show for railroad men — now open to the public for the first time. Your railroad ticket will admit you free. Auditorium . . . on the Boardwalk.
"The Biggest Show on Earth"

der which, in large characters, is printed a brief description of the exhibits and the invitation to attend.

Railroad Exhibits at the 1939 World's Fair

Announcement was made in the *Railway Age* of May 29 of the appointment of a committee by the Eastern Presidents' Conference to consider the type of railroad exhibit which should be made at the New York World's Fair in 1939. This committee, consisting of Messrs. J. M. Davis, F. E. Williamson, Daniel Willard, George LeBoutillier and H. S. Palmer, has appointed a subcommittee to make a study and present recommendations as to the nature of the exhibit. This committee, of which L. G. Coleman is director, will also have charge of carrying out any program decided upon by the Eastern Presidents' Conference.

Those in charge of the World's Fair are planning for as strong an educational influence as possible, and presumably the railroads as a body will combine, with the assistance of the railway supply interests, in presenting an exhibit which will dramatize their activities and indicate the extent to which they affect the lives of every inhabitant in this country. The building, or buildings which house the railroad exhibit will be grouped with similar exhibits of the other types of transportation. An early decision as to the extent and details of the railroad exhibit must be made, in order that it may be allocated adequate space and that the contracts for the buildings may be made well before the year end, in order to insure their completion in time for the fair. Mr. Coleman's office address is 230 Park avenue, New York City.

New Pennsy Steam Locomotive

The Pennsylvania, in cooperation with a committee of engineers of the Baldwin, American and Lima locomotive companies, is now developing a new type of steam locomotive to be known as "The Pennsylvania Type," it is announced by M. W. Clement, president of the road. A development of the conventional coal-burning steam type, to cost little more to build, operate and maintain than present locomotives of lesser capacity, the new unit will be capable of hauling a 14-car passenger train at 100 miles an hour and will render service comparable to the motive power on the electrified eastern lines of the road.

This type will be the largest, fastest, and most powerful steam engine ever designed primarily for passenger service on the Pennsylvania. Having the same general appearance as the streamlined type of heavy steam passenger locomotive now in service, the new locomotive, a 4-4-4-4 type, will carry two pairs of cylinders on a rigid frame, each pair providing power for four driving wheels. The tender, mounted on two six-wheel trucks, has a maximum capacity of 25,000 gallons of water and 26 tons of coal. As soon as one of the new type locomotives is completed, road and plant tests will be made to determine its practical adaptation to various transportation needs.

N. Y. Holiday Travel

Roads entering New York report in general a high increase in passenger travel through New York terminals over the Memorial Day week-end this year, in comparison with that of 1936. Some traffic officers attribute the rise to the four-day travel week-end effected by the holiday's falling on a Monday. Other roads feel that increased business conditions in general and the reduction of the eastern basic fare rates encouraged increased patronage.

The New Haven reports marked travel to all points, especially on the New York-Boston shore route. Special one-day excursions also contributed to the total. The holiday movements necessitated operation of 64 extra trains, consisting of approximately 600 extra coaches and Pullmans.

The Central of New Jersey reports an increase in volume of passengers of 67 per cent in rail travel and a 97 per cent increase in patronage of the Sandy Hook boats. Extra trains were operated to Atlantic City, N. J., and seashore points on the New York & Long Branch. The traffic department emphasized especially the notable rise in revenues on local station-to-station runs.

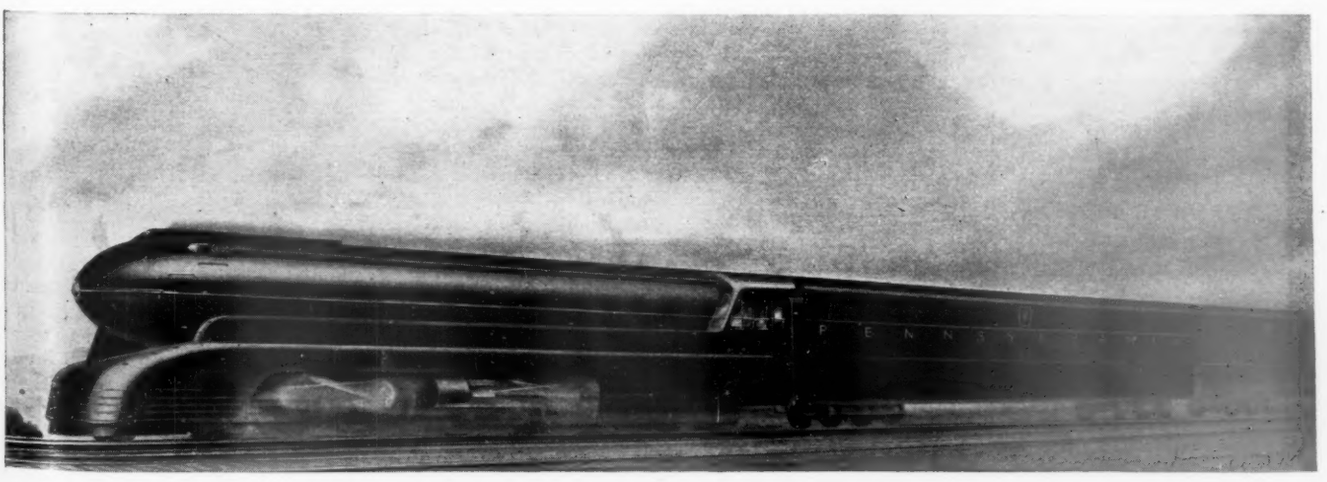
The Baltimore & Ohio stated that the week-end constituted one of the heaviest holiday travel periods in several years. Extra cars and sections were added to all through trains. The Delaware, Lackawanna & Western enjoyed a week-end passenger trade 20 per cent higher than last year on all major runs this year, in spite of the fact that the special low-fare excursions usually operated in the spring were discontinued this week-end.

The New York Central operated about 100 extra trains in and out of Grand Central terminal during the four days. It is estimated that Pullman travel from Wednesday to Monday climbed 35 per cent over the figure for the corresponding period of 1936. The Pennsylvania reports unusually heavy travel in both Pullmans and coaches, which necessitated the operation of approximately 175 extra trains and about 1,000 extra cars in and out of New York. Traffic was especially heavy on the Washington-New York run. The Erie enjoyed a 25 per cent increase this week-end over that of last year, with a specially heavy patronage on trains to lower New York State.

Fourth Section Relief on Citrus Fruits from Texas

Fourth section relief on rates for citrus fruits in carloads from producing points in Texas to Baltimore, Md., Philadelphia, Pa., New York and Boston, Mass., was granted last week by the Interstate Commerce Commission in a decision by Division 2. The effect of the decision is to extend to July 1, 1938, the temporary relief which expires at the end of this month. The application of the railroads was based on competition between the points involved with trucks from the producing centers to the Texas ports of Port Isabel and Brownsville, and by water beyond; and at north Atlantic ports between Texas shippers and applicants, on the one hand, and Florida shippers and carriers operating between Florida points and north Atlantic ports, on the other hand.

The decision authorizes rates to the above-mentioned Atlantic seaboard cities of $1.165 per 100 lb. from producing points on the Port Isabel & Rio Grande Valley, $1.10 from other producing points considered, and the latter as a maximum from intermediate points; provided that the relief shall not apply over routes to the more distant points over which the earnings, based on the



New "Pennsylvania Type" to Haul Heavy Passenger Trains

rate of $1.10, the minimum of 36,000 lb., and the distances from Harlingen, would be less than 12 cents per car mile.

At the hearing the applicants sought leave to amend the application so as to request relief in connection with rates of not less than 96.5 cents and 90 cents per 100 lb. from the respective groups of producing points mentioned above. While the commission found that the effect of this would be to broaden materially the scope of the application and thus rejected the amendment, it did permit the amendment which made the rates applicable every day in the week, instead of only on shipping days (Monday, Tuesday, Thursday and Friday) as originally proposed.

Division VI Convention Program

The annual meeting of Division VI, A.A.R., will convene in the Municipal auditorium, Atlantic City, N. J., at 10:00 a.m., eastern daylight saving time, on Monday, June 21, and will be conducted as outlined in the following program:

MONDAY, JUNE 21

Address by C. D. Young, vice-president, Penna.
Address by J. M. Symes, vice-president, operations and maintenance department, A.A.R.
Report of general committee.
Address by the chairman.
Subject 2—Standard Material Classification.
Subject 3—Classification, Handling and Sale of Scrap.
Subject 3A—General Reclamation.
Annual Contest Papers.
Subject 5—Forest Products.

TUESDAY, JUNE 22

Subject 4—Comparison of Material Stock Reports and Material Store Expenses.
Subject 6—Purchasing and Storekeeping for Highway Motor Vehicles.
Subject 9—Fuel.
Subject 10—Forecasting Material Requirements (Purchased and Shop Manufactured Stocks) to Co-ordinate Procurement with Actual Needs.
Subject 11—Pricing and Inventory.
Papers on Direct Pricing by B. T. Adams, district storekeeper, I. C., (affirmative); and W. F. Redman, traveling storekeeper, C. & N. W., (negative).
Subject 12—Purchasing Agents Organization, Practices and Office Records.
Subject 34—Maintenance of Way and Construction Materials.
Subject 35—Extension of Purchasing in Standard Packages.

WEDNESDAY, JUNE 23

Subject 13—Stationery and Printing.
Subject 14—Stores Department Fire Prevention.
Subject 15—Material Handling (Expense and Facilities).
Subject 16—Simplification and Standardization of Stores Stocks.
Subject 29—Exchange of Surplus Material.
Subject 31—Material Guarantees—General Practice as to Guarantees—Failures, Methods of Handling, and Lists of Materials Covered by Specific Guarantees.
Subject 36—Stock Book Records vs. Stock Card Records.
Report of resolutions committee.
Report of memorials committee.
Report of nominating committee.
Election of officers.

South African System Reports Operations for 1936

According to the report for the year ending December 31, 1936, of the Railway & Harbors Board of the Union of South Africa, the rail properties operated by the board carried 94,930,124 passengers and hauled 26,998,847 short tons of revenue freight. They earned a gross revenue of £31,762,008 ($156,904,319) and net revenues of £6,618,234 ($32,694,075), an increase of 25.5 per cent over 1935's net.

During the year, an agreement was concluded with the Mashonaland Railway, the Rhodesia Railways, and the government of Southern Rhodesia, by which the government of the Union of South Africa gains reaffirmation of the right to operate the line between Vryburg and Polapye in Rhodesia after a period of 33⅓ years has elapsed, for which route tariffs, both passenger and freight, will be based on the scale now in effect on the South African system. The improvement program for the year was concentrated largely in the Witwatersund area, where, due to rapid expansion of gold-mining and industrial activity, it was found practicable to install additional main line tracks and electrify suburban passenger services, at a total cost of £5,000,000 ($24,700,000).

Winners of I. C. Essay Prize

Thomas C. Shedd, Jr., a student of the University of Illinois, is the winner of a $100 prize offered by the Illinois Central for the best essay on "What I Like Best in Modern Railroading—and Why." A second prize of $75 was awarded John W. Evans of Washington University; a third prize of $50 to Eugene Toepel of the University of Wisconsin; and a fourth prize of $25 to Sam Daccardo of the University of Illinois. Mr. Shedd's essay is as follows:

"The question 'What do you like best in modern railroading?' probably has as many answers as there are persons of whom the question is asked. When I began to think about it I realized that to answer it would not be as simple a matter as it at first seemed.

"Consider everything that has been going on in the railroad world during the last several years. High-speed, streamline, air-conditioned trains flash over our rails from coast to coast. Freight service has been made more convenient and dependable through the use of faster trains and door-to-door service. Locomotives have been improved and new types developed. Track has been made safer and easier-riding. New signal systems providing the utmost in safety and efficiency have been installed. Construction and repair methods have been modernized, with a resulting saving of time and money. And so on. I could fill many pages with a mere recital of the improvements and innovations in rail service which have recently made their appearance.

"As I review in my mind some of the many changes that have taken place on the railroads in the last few years, I am impressed at every turn with something which, while intangible, is nevertheless, in my opinion, of vastly more importance than any of the individual achievements, spectacular and far-reaching though they may be. This something I like to call 'the Spirit of It Can Be Done.' It is an attitude, an outlook on life, which bodes well for the future of one of our greatest industries.

"The depression, people used to say, had the railroads licked. Trains had been taken off, stations closed and track abandoned. The future did indeed appear dark for the railroads. Then some resourceful railroads had the idea that more people could be enticed into using the railroads if service could be improved and rates lowered. At first the fruition of this idea was evidenced only by scattered experiments in low fares, faster trains and door-to-door delivery. These experiments proved so completely successful that others were begun on an ever-increasing scale. The result has been a metamorphosis that would make many an old-time railroader gape with wonder—and we have witnessed only the beginning.

"The most important result of the railroads' new spirit is increased attention and commendation, as reflected not only in newspaper publicity but also in increased revenues. The railroads have shown that they deserve to be included in the cavalcade of American progress. They are insuring their own future success, as well as the continued progress of the American nation. They are 'on their toes.'

"Reflecting on what I have said above convinces me that my answer to the question 'What do you like best in modern railroading?' should be the spirit behind the streamline train—the spirit of 'It Can Be Done.'"

Retirement Bill Report Expected

(*Continued from page 951*)

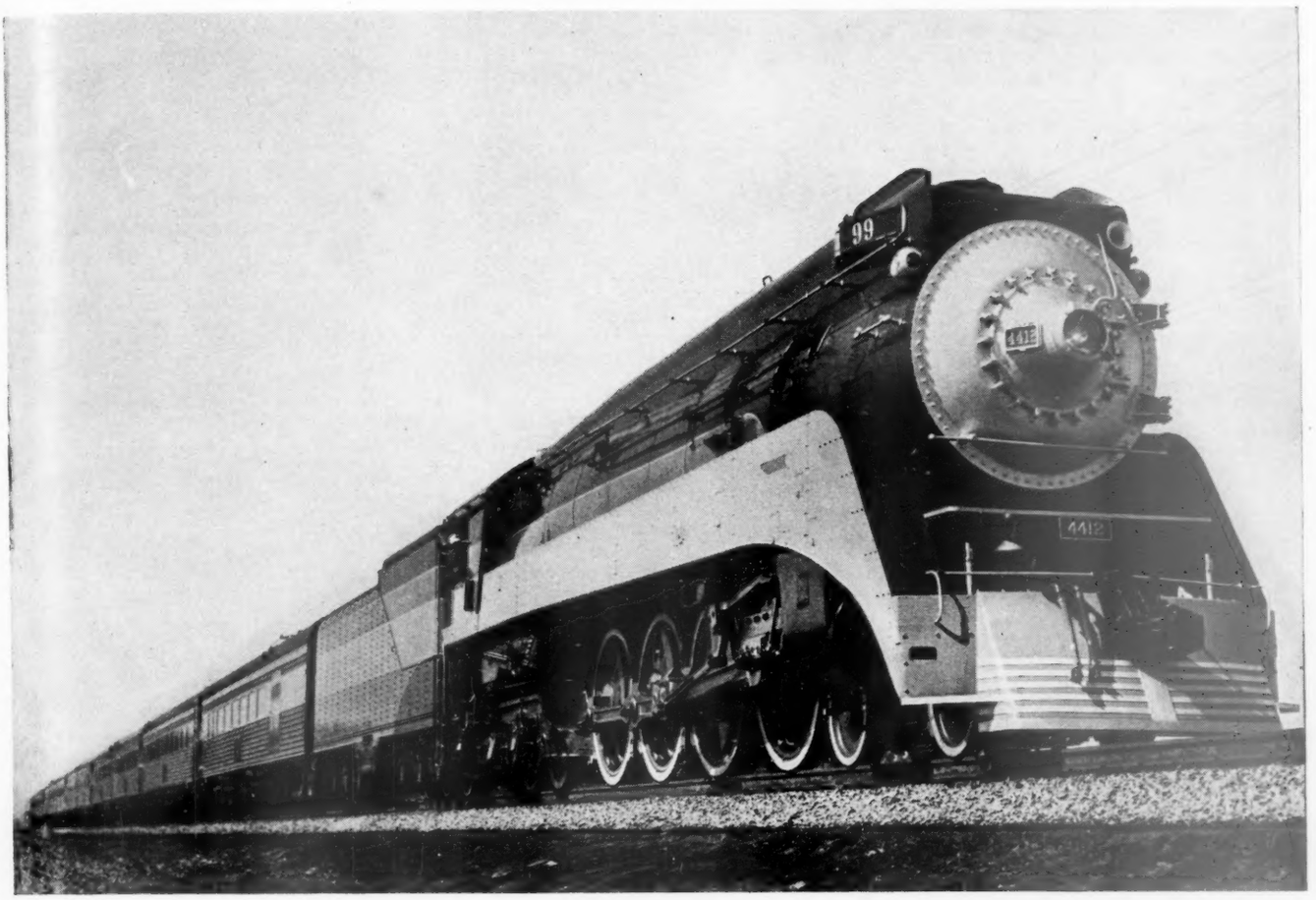
candidates who have had railroad experience.

During Judge Fletcher's testimony some discussion developed about the practice, followed generally by labor spokesmen at the hearings, of going "off the record" when making any reference to the pending tax act. When Senator Austin of Vermont asked who was supposed to be fooled by the device, Judge Fletcher, who has not thought it necessary to slip on and off the record, replied, "I guess nobody but the courts." He added, however, that he would be surprised if any court gave any weight to statements of interested parties before the committee, and thus he has not felt that he violated the management-labor agreement by his on-the-record references to the tax act. Later Mr. Hay explained that the only purpose of the procedure was to have the retirement bill considered as an exercise of the appropriating and spending powers without bringing in the taxing powers which are called up by the other bill.

Following the testimony of Mr. Hay and Judge Fletcher, Senator Barkley of Kentucky, expressed his "appreciation and congratulations to the railroads and their employees." He saw in the compromise agreement "a good omen in the industrial history of this country." Whereupon Senator Davis of Pennsylvania observed that the only way such harmony can be brought about is through collective bargaining. Then Judge Fletcher listed other compromises which had been worked out, such as the dismissal wage, the power reverse gear agreement and the agreement with the dispatchers. The pension settlement, the A. A. R. counsel said, was the sixth recent compromise—and by far the most difficult to reach. Senator Wagner of New York questioned Judge Fletcher on the extent to which railroad employees are organized,

Continued on next left-hand page

MODERN TRAIN OPERATION REQUIRES . . .



. . . high starting power

PLUS

high horsepower at high speed

Only modern steam locomotives can economically fulfill these requirements.

Modern steam locomotives, which incorporate proved capacity-increasing factors in their design, are capable of starting heavier trains and delivering a 25 to 30 per cent increase in ton-miles-per-train-hour.

This increased output spreads operating costs over greater tonnage and shows correspondingly increased net earnings.

LIMA LOCOMOTIVE WORKS, LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

making, he said, the point that "with organization you have industrial peace."

Other witnesses before the Senate subcommittee were Murray W. Latimer, chairman of the Railroad Retirement Board; Herman L. Ekern, former counsel for the Railroad Employees National Pension Association, who appeared on his own behalf as an interested citizen, and M. W. Royster, president of the Railroad Employees National Pension Association.

Meetings and Conventions

The following list gives names of secretaries, date of next or regular meetings, and places of meetings:

AIR BRAKE ASSOCIATION.—T. L. Burton, Room 1440, 466 Lexington Ave., New York, N. Y. Next meeting, June 17-18, 1937, Haddon Hall, Atlantic City, N. J.

ALLIED RAILWAY SUPPLY ASSOCIATION.—F. W. Venton, Crane Company, 836 S. Michigan Ave., Chicago, Ill. To meet with Air Brake Association, Car Department Officers' Association, International Railway Master Blacksmiths' Association, International Railway General Foremen's Association, Master Boiler Makers' Association, and the Railway Fuel and Traveling Engineers' Association. Exhibit, September 28-30, 1937, Hotel Sherman, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, F. T. R., M. & O. R. R., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 816 McCormick Bldg., Chicago, Ill. Annual meeting, September, 1937, Boston, Mass.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York, N. Y. Annual meeting, November 8-9, 1937, Miami, Fla.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Union Station, St. Louis, Mo. Annual meeting, June 8-10, 1937, Palmer House, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. Annual meeting, January 14-15, 1938.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill. Annual meeting, October 11-13, 1937, Mayflower Hotel, Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, 319 N. Waller Ave., Chicago, Ill. Annual meeting, October 19-21, 1937, Hotel Stevens, Chicago, Ill. Exhibit by Bridge and Building Supply Men's Association.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—E. J. Hoddy, Louisville & Nashville R. R., Louisville, Ky.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in co-operation with the Association of American Railroads, Division IV.—Frank McNellis (Asst. Secy.), 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 15-17, 1938. Exhibit by National Railway Appliances Association, March 14-17, International Amphitheatre, Union Stockyards, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—M. W. Jones, Baltimore & Ohio R. R., Mt. Royal Station, Baltimore, Md. Fall meeting, October, 1937, Memphis, Tenn.

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C. M., St. P. & P. R. R., 11402 Calumet Ave., Chicago, Ill.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—R. E. Schindler, Union Trust Bldg., Washington, D. C. Annual meeting, October 18-19, 1937, Chicago, Ill.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 West 39th St., New York, N. Y.

Railroad Division.—Marion B. Richardson, 21 Hazel Ave., Livingston, N. J.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y. Annual meeting, September 19-23, 1937, The Greenbrier Hotel, White Sulphur Springs, W. Va.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St., N. W., Washington, D. C. Annual meeting January 25-27, 1938, Chicago, Ill.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.

Operations and Maintenance Department.—J. M. Symes, Vice-President, Transportation Bldg., Washington, D. C.

Operating-Transportation Div. — L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y. Annual meeting, June 7-8, 1937, Hotel Traymore, Atlantic City, N. J.

Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y. Annual meeting, Oct. 5-7, 1937, Medinah Club, Chicago, Ill.

Division IV.—Engineering.—Frank McNellis (Asst. Secy.), 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 15-17, 1938. Exhibit by National Railway Appliances Association, March 14-17, International Amphitheatre, Union Stockyards, Chicago, Ill.

Construction and Maintenance Section.—Frank McNellis (Asst. Secy.), 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 15-17, 1938.

Electrical Section—Frank McNellis (Asst. Secy.), 59 E. Van Buren St., Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y. Annual meeting, April 5-7, 1938, Roosevelt Hotel, New Orleans, La.

Division V.—Mechanical.—V. R. Hawthorne, 59 E. Van Buren St., Chicago, Ill. Annual meeting, June 16-23, 1937, Atlantic City, N. J. Exhibit by Railway Supply Manufacturers' Association.

Division VI.—Purchases and Stores.—W. J. Farrell, 30 Vesey St., New York, N. Y. Annual meeting, June 21-23, 1937, Atlantic City, N. J. Exhibit by Railway Supply Manufacturers' Association.

Division VII.—Freight Claims.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, June 15-17, 1937, Royal York Hotel, Toronto, Ontario, Canada.

Division VIII. — Motor Transport. — George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division. — C. A. Buch, Transportation Bldg., Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.

Accounting Division. — E. R. Ford, Transportation Bldg., Washington, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W. Ry., 1519 Daily News Bldg., 400 W. Madison St., Chicago, Ill. Semi-annual meeting, June 17, 1937, Chelsea Hotel, Atlantic City, N. J. Annual meeting, October 27-28, 1937, Hotel Sherman, Chicago, Ill. Exhibit by Railway Electrical Supply Manufacturers' Association.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—W. S. Carlisle, National Lead Company, 900 W. 18th St., Chicago, Ill. Meets with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB.—C. R. Crook, 2271 Wilson Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month, except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—A. S. Sternberg, M. C. B. Belt Ry. of Chicago, 7926 S. Morgan St., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 2514 W. 55th St., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—E. G. Bishop, Illinois Central System, East St. Louis, Ill. Regular meetings, third Tuesday of each month except June, July and August, Hotel Statler, St. Louis, Mo.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month except June, July and August, Hotel Statler, Buffalo, N. Y.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—(See Railway Fuel and Traveling Engineers' Association.)

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabasha St., Winona, Minn. Annual meeting, September 28-29, 1937, Hotel Sherman, Chicago, Ill.

INTERNATIONAL RAILWAY MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich.

MASTER BOILER MAKER'S ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y. Annual meeting, September 29-30, 1937, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Clyde S. Bailey, 806-808, 13th and E Sts., N. W., Washington, D. C. Annual meeting, August 31-September 3, 1937, Salt Lake City, Utah.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit at A. R. E. A. Convention, March 14-17, 1938, International Amphitheatre, Union Stockyards, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Friday of each month, except June, July and August, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 3275, San Francisco, Cal. Regular meetings, second Thursday of each month, alternately at San Francisco and Oakland, excepting June at Los Angeles and October at Sacramento.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa., Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill. Meets with Association of Railway Electrical Engineers.

RAILWAY FIRE PROTECTION ASSOCIATION.—P. A. Bissell, 40 Broad St., Boston, Mass. Annual meeting, October 19-20, 1937.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, 1255 Old Colony Bldg., Chicago, Ill. Annual meeting, September 28-30, 1937, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa. To meet with Mechanical Division and Purchases and Stores Division, Association of American Railroads, June 16-23, 1937, Atlantic City, N. J.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R. Division I.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 1438 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—T. F. Donahoe, Gen. Supvr. Road, Baltimore & Ohio, Pittsburgh, Pa. Annual meeting, September 14-16, 1937, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R., Signal Section.

SOCIETY OF OFFICERS, UNITED ASSOCIATIONS OF RAILROAD VETERANS.—M. W. Jones, Baltimore & Ohio, Mt. Royal Station, Baltimore, Md. Annual meeting, October 9-10, 1937, Richmond, Va.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga. Semi-annual meeting, July 15, 1937.

TOOL FOREMEN SUPPLIERS' ASSOCIATION.—H. W. Leighton (President), H. W. Leighton Company, 565 W. Washington St., Chicago, Ill. Meets with American Railway Tool Foremen's Association.

TORONTO RAILWAY CLUB.—R. H. Burgess, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

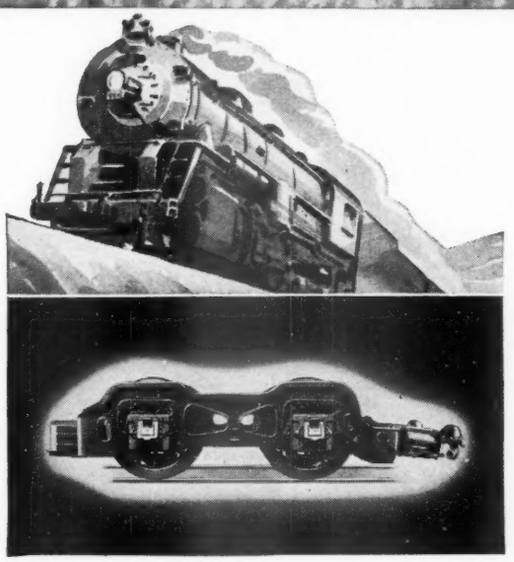
TRACK SUPPLY ASSOCIATION.—D. J. Higgins, Gardner-Denver Company, 332 S. Michigan Ave., Chicago, Ill. Meets with Roadmasters' and Maintenance of Way Association.

TRAVELING ENGINEERS' ASSOCIATION.—(See Railway Fuel and Traveling Engineers Association.

WESTERN RAILWAY CLUB.—C. L. Emerson, C. M., St. P. & P., Chicago, Ill. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago, Ill.

Continued on next left-hand page

THE BOOSTER PROVIDES additional "pulling legs"



Depending on the ground contour and the stand of grain to be cut, horses are added until sufficient pulling power is assembled to start the reaper, but the extra horses go on all day.

With a locomotive, hauling a capacity train, the Booster temporarily utilizes the idle adhesive weight on the trailer or tender wheels to provide the added pull for smooth starting and rapid acceleration, and then cuts out. The advantage is obvious.

It's the cheapest power you can buy or maintain — the Booster capitalizes idle weight and spare steam.

Because material and tolerances are just right for the job, genuine Franklin repair parts give maximum service life.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Equipment and Supplies

Equipment Orders Fall Off in May

But 1937 already exceeds totals of 1931 through 1935 in all classes of equipment

Domestic equipment orders reported in May issues of the *Railway Age* (exclusive of May 1 purchases recorded in April) total 14 locomotives (1 steam, 13 Diesel-electric), 3,903 freight cars, and 8 passenger-train cars. In addition, on May 29 there were inquiries outstanding for 19 to 23 locomotives (2 steam, 6 to 10 electric, 11 Diesel-electric) and 640 freight cars. Carriers also contemplated orders for 19 passenger-train cars.

May orders bring the 1937 record for locomotive buying to 206 units, or 108 in excess of the 98 units ordered during the corresponding five months of 1936. This figure also surpasses the 12-months totals of 1931 to 1935, inclusive.

Although freight car purchases lagged considerably in May, being less than half the orders entered during any previous month of the year except March, when 6,200 cars were placed on order, the total of 44,562 cars for 1937 remains notably high in comparison with the records of previous years. It outstrips, as do locomotive orders for the same period, the entire 12-month totals of 1931 to 1935, inclusive, and, if comparison be extended, exceeds the orders for the corresponding five-month periods of 1926, 1927, and 1928. Furthermore it lacks only 8,698 cars to equal the 53,260 orders placed during the comparable period of 1929, a peak year in freight-car activity.

While the May passenger-train car orders constitute a precipitous drop from previous months, the total of 446 orders placed so far in 1937 remains in excess of the 12-month totals not only of 1931-1935 (as did the corresponding totals for the other categories of equipment stated above), but 1936 as well. Furthermore, in May of 1936, no passenger-train car orders were placed, according to *Railway Age* compilations.

Domestic Equipment Orders Reported In Issues Of The Railway Age In May, 1937

LOCOMOTIVES

Date	Name of Company	No.	Type	Builder
May 8	Steelton & Highspire	1	Diesel-electric	American Locomotive Co.
May 8	Alton & Southern	1	2-8-2	American Locomotive Co.
May 8	South Buffalo	2	Diesel-electric	Electro-Motive Corp.
		1	Diesel-electric	American Locomotive Co.
May 8	Patapsco & Back Rivers	3	Diesel-electric	Electro-Motive Corp.
		1	Diesel-electric	American Locomotive Co.
May 8	Philadelphia, Bethlehem & New England	4	Diesel-electric	Electro-Motive Corp.
		1	Diesel-electric	American Locomotive Co.

FREIGHT CARS

May 15	Union Pacific	1,900	Box	Company Shops
		700	Auto Box	Company Shops
		1,000	Hart Ballast	American Car & Foundry
		200	Tank	General American
May 22	National Tube Co.	103	Gondola	Ralston Steel Car Co.

PASSENGER-TRAIN CARS

May 8	Reading	4	Edward G. Budd Mfg. Co.
May 22	Ft. Worth & Denver City	4	Edward G. Budd Mfg. Co.

LOCOMOTIVES

Norfolk & Western Equipment Program

The Norfolk & Western will construct at an approximate cost of $1,600,000 in its Roanoke, Va., shops 10 additional heavy freight locomotives of the Y-6 (2-8-8-2) class, 20 new all-steel caboose cars and 10 all-steel covered hopper cars of 70 tons' capacity, the latter designed for hauling cement and similar commodities.

Material for these new locomotives to be of modern design will be ordered immediately and construction will start about October; it is expected that four of the locomotives will be completed this year; they will be equipped with roller bearings, mechanical lubrication, and will have a tractive effort of about 127,000 lb.; locomotive and tender will weigh, in working order, 961,500 lb. The locomotives are to be the same type (Y-6) as five others built in these shops last year.

The shop forces will start construction on the 20 caboose cars as soon as plans are completed and material received.

THE CHICAGO & NORTH WESTERN has ordered one 4-6-4 type locomotive from the American Locomotive Company, thereby increasing the number ordered in February from eight to nine.

THE EAST ERIE COMMERCIAL RAILROAD has ordered one Diesel-electric switching locomotive of 300 hp. with a weight of 61 tons, from the General Electric Company, equipped with a Cooper-Bessemer Corporation power plant.

THE PENNSYLVANIA is now engaged in developing, in co-operation with engineers of Baldwin, American and Lima Locomotive Works, a new type of steam locomotive which will be capable of hauling 1,200 tons—a 14-car passenger train—at 100 miles an hour. See description with illustration in News section.

PASSENGER CARS

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered 10 coaches from the Pullman-Standard Car Manufacturing Company. Inquiry for this equipment was reported in the May 8 issue of the *Railway Age*.

CITY OF PHILADELPHIA, PA., DEPARTMENT OF CITY TRANSIT, opened bids on June 2, for 50 new subway cars. The bids for the cars, excepting the railway motors, electric control equipment, air brake operating equipment and car door operating equipment, were: Pressed Steel Car Company, $31,500; St. Louis Car Company, $2,200; The J. G. Brill Company, $32,565; Pullman-Standard Car Manufacturing Company, $34,675. Inquiry for this equipment was reported in the *Railway Age* of May 1.

IRON AND STEEL

NEW YORK CENTRAL.—Bids have been received for about 315 tons of structural steel for work at Tonawanda, N. Y.

Supply Trade

The Central Foundry Company has moved its office from 420 Lexington avenue to 386 Fourth avenue, New York City.

The Ideal Commutator Dresser Company, Sycamore, Ill., has moved its New York office to larger quarters, at 61 East Eleventh street.

L. T. McGuire, assistant sales manager of the **Byers Machinery Company,** Ravina, Ohio, has resigned to become divisional manager of the large excavator division of the **Harnischfeger Corporation,** Milwaukee, Wis.

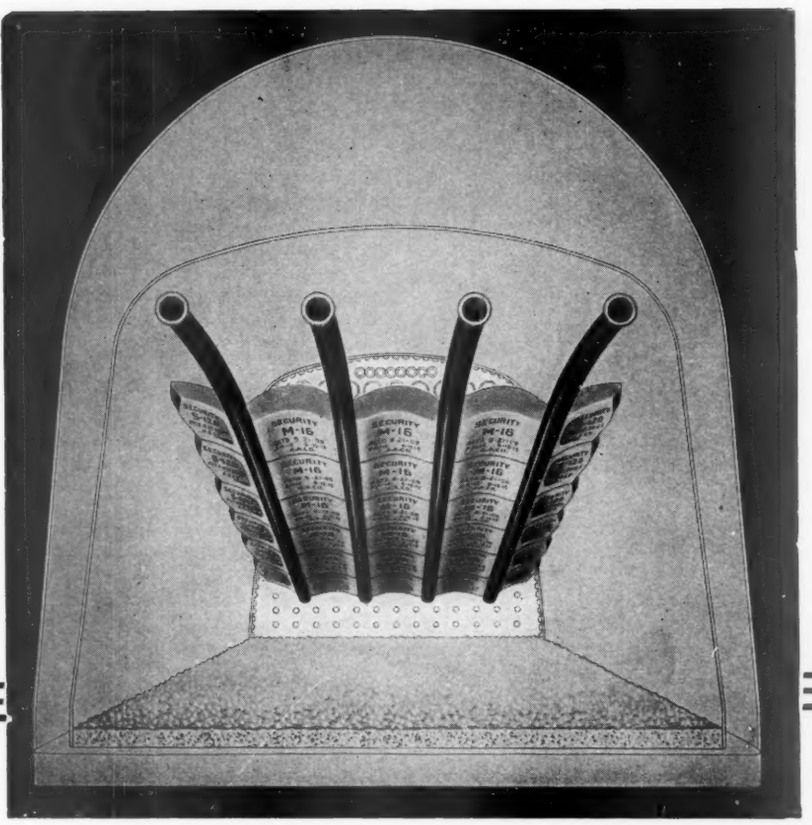
W. E. Hicks has become associated with the **W. P. Tabin Company, Inc.,** Kansas City, Mo., general contractors; Mr. Hicks will have his headquarters at 1218 Olive street, St. Louis, Mo. He recently resigned as executive assistant on the Minneapolis & St. Louis.

Another addition to the Diesel Locomotive plant of the **Electro-Motive Corporation** at La Grange, Ill., will be started about the first of June. This addition, consisting of a one story building 360 feet wide by 816 feet long, and located west of the present main building, will be used for manufacturing Winton two-cycle Diesel engines supplementary to the facilities at the Winton plant in Cleveland. This is the second addition to the plant since it was completed in January, 1936. The first addition, which doubled the size of the main building, was placed in service three months ago.

K. W. Green has been appointed manager of railway sales of **The Electric Storage Battery Company,** Philadelphia,

Continued on next left-hand page

Locomotive Capacity and Fuel Economy



There's More To SECURITY ARCHES Than Just Brick

The Security Brick Arch compels every pound of fuel to yield its full share of boiler capacity—to give full return from every dollar spent for fuel.

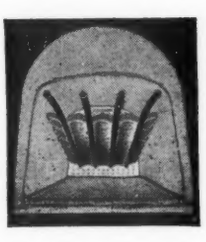
But to be sure of this maximum return, the Brick Arch must be properly designed and properly maintained.

Every class of firebox requires its individual arch design and this is increasingly important with long fireboxes which require long arches.

Fuel economy, by properly designed and properly maintained arches, offers a sure means of lowering costs—a factor of significant importance now when the price trend of nearly all commodities is upward.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists

Pa., manufacturers of Exide batteries. Mr. Green was graduated as an electrical engineer from Lehigh University, class of 1924. He then took the students' training

K. W. Green

course at the Bethlehem Steel Company, and worked in the electrical department for three years. He entered the employ of The Electric Storage Battery Company in July, 1927, and served for five years on the sales staff of the Pittsburgh branch before going to Philadelphia.

J. F. Hoerner, district manager at New York of the **Baldwin Locomotive Works,** has been appointed assistant general sales manager, with headquarters at Philadelphia, Pa. **Victor E. Rennix,** who entered the sales department in 1918, and was transferred to Chicago as assistant to the district manager in 1933, succeeds Mr. Hoerner as district manager at New York, and **Henry K. Patjens,** who has been with Baldwin in the engineering department from 1919 until early in the present year, when he was transferred to the sales department, has been assigned to the Chicago district office, in

J. F. Hoerner

place of Mr. Rennix. Mr. Hoerner started work with the Baldwin Locomotive Works in 1909, and served in the engineering department until 1915, when he was transferred to the New York sales force. From 1919 to 1921 he was assistant manager of the New York office and until 1928 was assistant to the vice-president at New York, since which time he has served as district manager at New York.

Construction

ATCHISON, TOPEKA & SANTA FE.—Earl W. Heple, San Jose, Cal., was the low bidder for the work of constructing an underpass to carry Wilson Way, Stockton, Cal., under the tracks of this company. Construction of this underpass, which will cost about $325,000, is being handled by the Department of Public Works, Division of Highways, of the State of California.

BALTIMORE & OHIO-LOUISVILLE & NASHVILLE-PENNSYLVANIA.—Contracts have been awarded by the state of Illinois for work in connection with the construction of a highway subway to carry St. Clair avenue, East St. Louis, Ill., under the tracks of these companies at a cost of about $268,000. The Blackwell Corporation, East St. Louis, has the contract for building the substructure, the Fransen Construction Company, Chicago, has been awarded a contract for the grading, and Fred Lorenz, Inc., Chicago Heights, Ill., has the contract for erecting the steel, which is being furnished by the Bethlehem Steel Company.

CHICAGO, BURLINGTON & QUINCY.—A contract has been awarded to the B. Jobs Construction Company, Peoria, Ill., for additions and extensions to this company's enginehouse at Galesburg, Ill. This work, which will cost about $80,000, will involve the construction of a six-stall addition to the present enginehouse and the extension of three stalls. Another contract has been awarded to G. A. Johnson & Sons, Chicago, for the construction of a new six-stall enginehouse at Rock Island, Ill., at a cost of about $35,000.

LEHIGH VALLEY.—A contract has been given to the Faircroft Engineering Corporation, Brooklyn, N. Y., for grade crossing elimination work in the town of Mendon, N. Y., to cost about $95,000. See *Railway Age* of April 24, page 739.

NEW YORK CENTRAL.—Contracts have been let to the P. T. Cox Contracting Company, New York, for building two sections of a viaduct, one at Dyckman street and the other south of Dyckman street, in connection with the West Side Improvements of this road in New York.

NEW YORK CENTRAL.—No bidders responded when the Department of Highways of the State of Ohio asked for bids for the construction of a structure to separate the grades of the tracks of this company and State Highway 694 in Cuyahoga county, Ohio. Because of the refusal of contractors to bid on this project, an effort is being made to secure additional funds to make it more attractive to bidders. If these efforts are successful, the project will be re-advertised for bids.

PENNSYLVANIA.—The New York Public Service Commission has approved plans, specifications and an estimate of cost of $309,710, exclusive of land and property damages, in connection with the elimination of the Ayer street crossing of this road in Montour Falls, N. Y.

Financial

BENNETTSVILLE & CHERAW.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon that portion of its line extending from Sellers, S. C. to Drake, approximately 18 miles.

CHICAGO, BURLINGTON & QUINCY.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire the properties of the North Platte Valley.

CHICAGO GREAT WESTERN.—*Abandonment of Trackage Rights.*—Trustees of this road have applied to the Interstate Commerce Commission for authority to abandon operation under trackage rights over about 4,200 ft. of Kansas City Southern tracks in Kansas City, Kan., and Kansas City, Mo. The application points out that the trackage arrangements were made in 1933 under a plan whereby the C. G. W. proposed to abandon its Kansas City freight house and use the K. C. S. facilities there. The proposal brought a controversy with the Brotherhood of Railway Clerks which contended that the shift could not be made unless the C. G. W. freight house employees followed the work. The National Railroad Adjustment Board decided against the C. G. W. and the subsequent settlement required a reopening of the abandoned freight house. Thus the operation over the K. C. S. was rendered unnecessary.

CHICAGO, ROCK ISLAND & PACIFIC.—*Annual Meeting.*—At the annual meeting of directors at New York on May 29 James E. Gorman was re-elected president and, in addition, was named chairman of the executive committee. In the latter position he succeeds E. N. Brown, who is also chairman of the board and of the finance committee. Frank E. Walsh, assistant to the trustees, was elected a director to fill the unexpired term of C. Hamilton Moses, resigned.

CHICAGO, ROCK ISLAND & PACIFIC.—*Refunding Plan.*—A tentative plan for refunding all of the present outstanding issues of Rock Island equipment trust certificates, totaling $29,716,800, was presented to the Federal court in Chicago on June 1, and authority requested to file application with the Interstate Commerce Commission for approval of the issuance of new refunding certificates. Interest on the outstanding equipment trust certificates has been paid during the period of trusteeship. Final principal payments on the several series of the old certificates mature in different years up to 1945. According to the plan, which will take effect on June 1, 1937, if the Commission and court approve, all of the new certificates will constitute a single issue, bearing interest at the rate of 3½ per cent per annum. The trustees or their successors will make semi-annual payments of $1,625,000, which will be applied first to the payment of interest on all the new certificates. The remainder will be applied to the retirement of principal on tender or call at par. On this

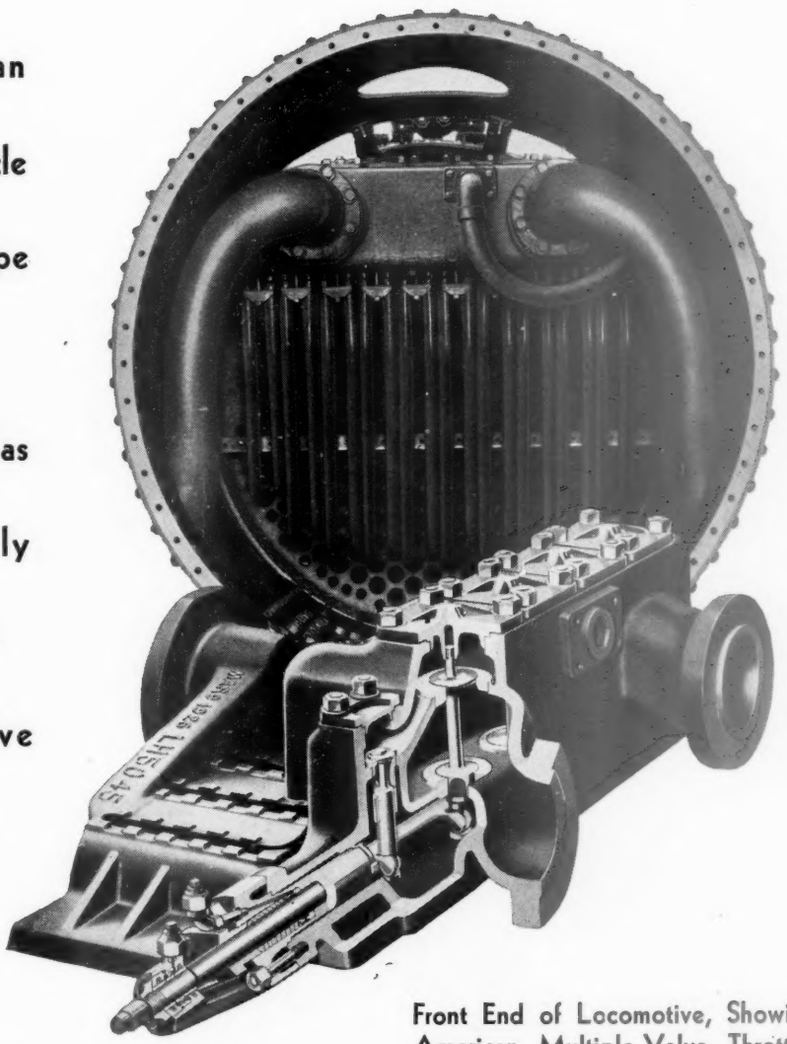
Continued on next left-hand page

Use *Dependable* Locomotive Throttles

During February 1931 an American multiple-valve throttle was installed in an 0-10-0 type engine.

Since that time the throttle has been operating satisfactorily without attention of any kind.

American multiple-valve throttles are DEPENDABLE.



Front End of Locomotive, Showing American Multiple-Valve Throttle, Superheater and Steam Pipes in Place. When the Superheater Header is Bolted in Place . . . the Throttle is Automatically Installed.

A-1145

AMERICAN THROTTLE COMPANY, Inc.

60 East 42nd Street, New York—Peoples Gas Building, Chicago

Canada: The Superheater Company, Limited, Montreal

Manufacturers of all types of locomotive throttles used by American railroads.

basis the present outstanding debt will be liquidated within a period of ten years.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—*Annual Report.*—The 1936 annual report of this company shows net income, after interest and other charges, of $3,331,340, as compared with net income of $1,976,622 in 1935. Selected items from the income statement follow:

	1936	1935	Increase or Decrease
Average mileage operated	336.58	336.58	.....
RAILWAY OPERATING REVENUES	$16,704,683	$13,547,652	+$3,157,031
Maintenance of way	2,037,712	1,968,303	+69,409
Maintenance of equipment	3,172,219	2,474,256	+697,963
Transportation	3,945,273	3,456,305	+488,968
TOTAL OPERATING EXPENSES	10,058,075	8,711,856	+1,346,219
Operating ratio	60.21	64.31	−4.10
NET REVENUE FROM OPERATIONS	4,936,368	3,583,309	+1,353,059
Railway tax accruals	1,330,936	913,347	+417,589
Hire of equipment	67,811	178,385	−110,574
Joint facility rents	311,491	160,754	+150,737
NET RAILWAY OPERATING INCOME	4,936,368	3,583,309	+1,353,059
Non-operating income	144,164	122,706	+21,458
GROSS INCOME	5,080,532	3,706,016	+1,374,516
Rent for leased roads	1,700,560	1,673,499	+27,061
TOTAL DEDUCTIONS FROM GROSS INCOME	1,749,192	1,729,394	+19,798
TOTAL AVAILABLE INCOME	3,331,340	1,976,622	+1,354,718
Dividends of 5% on Pref. Stock	122,670	122,670	.....
Dividends of 35½% on Com. stock (11% in 1935)	3,184,350	986,700	+2,197,650
BALANCE TRANSFERRED TO PROFIT AND LOSS	$24,320	$867,252	−$842,932

DENVER & RIO GRANDE WESTERN.—*Abandonment.*—The trustees of this company have filed a petition in the Federal District Court at Denver, Colo., for authority to abandon the Westcliffe branch of the company, which extends between Texas Creek, Colo., and Westcliffe, a distance of 25.3 miles.

ERIE.—*Extension of R.F.C. Loans.*—The Interstate Commerce Commission, Division 4, has approved the extension of $2,397,689 of a loan to this company by the Reconstruction Finance Corporation, in the amount of $2,775,000, maturing June 1, and of other loans aggregating $13,802,310 maturing in 1937 and 1938, the extended loans to mature not later than the following dates in the following amounts: $200,000 on October 31, 1937; $631,000 on each October 1, of 1938, 1939, 1940, and 1941, and $13,476,000 on June 1, 1942.

LEHIGH & NEW ENGLAND.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $250,000 of 3 per cent equipment trust certificates, maturing in 10 equal annual installments on July 15, from 1938 to 1947.

LOUISIANA & ARKANSAS.—*Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has authorized this company to assume liability for $400,000 of 3% equipment trust certificates, series A and $75,000 of series B, the series A maturing in 20 equal semi-annual installments of $20,000 on May 15 and November 15 from 1937 to 1947; and the series B maturing in 10 annual installments as follows: $8,000 on May 15, 1938; $7,000 on May 15, 1939 and alternately $8,000 and $7,000 on May 15 of each year thereafter to and including May 15, 1947. The series A issue has been sold at 99.935 and the series B at 98.304 to the Commercial National Bank in Shreveport, La., making the average annual interest cost on the two issues approximately 3.01 and 3.35 per cent respectively.

MINNEAPOLIS & ST. LOUIS.—*Annual Report.*—The 1936 annual report of this road shows net income, after interest and other charges, of $687,192, as compared with net income of $39,983 in 1935. Selected items from income account follow:

	1936	1935	Increase or Decrease
Average mileage operated	1,570.27	1,636.38	−66.11
RAILWAY OPERATING REVENUES	$8,955,364	$7,610,887	+$1,344,476
Maintenance of way	1,199,996	1,000,628	+199,368
Maintenance of equipment	1,413,513	1,396,833	+16,680
Transportation	3,601,126	3,553,002	+48,123
TOTAL OPERATING EXPENSES	7,114,353	6,762,907	+351,446
Operating ratio	79.44	88.86	−9.42
NET REVENUE FROM OPERATIONS	1,841,010	847,980	+993,030
Railway tax accruals	501,816	290,966	+210,849
Railway operating income	1,339,194	552,991	+786,202
Hire of equipment—Net Dr.	552,266	406,639	+145,627
Joint facility rents—Net Dr.	58,434	44,850	+13,583
NET RAILWAY OPERATING INCOME	728,492	101,500	+626,991
Non-operating income	124,724	88,526	+36,198
GROSS INCOME	853,217	190,027	+663,189
Rent for leased roads and equipment	6,316	24	+6,291
Interest on funded debt	36,426	54,334	−17,908
TOTAL DEDUCTIONS FROM GROSS INCOME	166,025	150,044	+15,981
NET INCOME	$687,192	$39,983	+647,208

NEW YORK, NEW HAVEN & HARTFORD.—*Abandonment.*—The trustees has applied to the Interstate Commerce Commission for authority to abandon the following lines of the Old Colony: from Sterling Junction, Mass. to Sterling, 2.09 miles; from Hyannis, Mass. to Hyannis Dock, 1.22 miles; and from Nantasket Junction, Mass. to Pemberton Junction, 6.43 miles. The trustees have also requested permission to abandon the line of the New Haven from Waterbury, Conn., to Southbury, 11.6 miles.

NEW YORK, NEW HAVEN & HARTFORD.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized the trustees to abandon operation and the trustees of the Chatham to abandon the entire line extending from Harwich, Mass., to Chatham, 7.7 miles.

NEW YORK, SUSQUEHANNA & WESTERN.—*Bankruptcy.*—This company has petitioned the federal district court for New Jersey for permission to reorganize under Section 77 B of the Bankruptcy Act. The company states in its petition that it defaulted on May 29 on its first mortgage and refunding 5's in the amount of $3,744,000 and that on February 1 it defaulted on its second mortgage 4½'s in the amount of $447,000. The company had endeavored to secure the assent of holders of these bonds to an extension of the maturity until 1940, but an insufficient number were willing to agree. The company is controlled by the Erie, but is operated separately from the parent company.

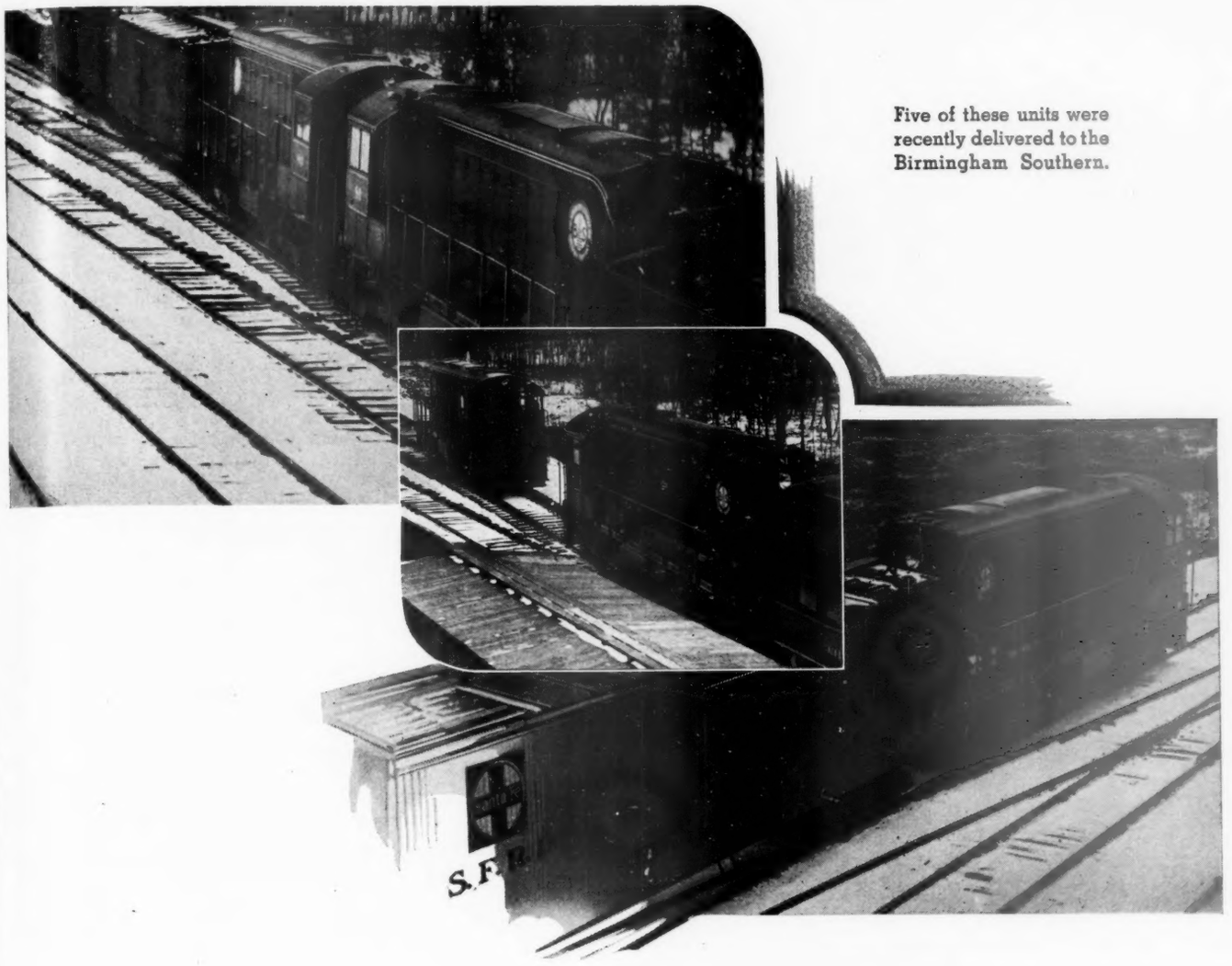
OHIO & MORENCI.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire and operate a switching line in Lenawee County, Mich., formerly owned and operated by the Blissfield.

PENNSYLVANIA.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon part of its Plum Creek branch extending from valuation station 250+00 to the terminus of the branch at valuation station 291+54 near Unity, Pa., 0.79 miles.

PITTSBURGH & LAKE ERIE.—*Annual Report.*—The 1936 annual report of this road shows net income, after interest and other charges, of $4,591,249, as compared with net income of $3,245,373 in 1935. Selected items from the income account follow:

	1936	1935	Increase or Decrease
Average mileage operated	233.83	233.83	.....
RAILWAY OPERATING REVENUES	$22,204,490	$16,822,332*	+$5,382,157
TOTAL OPERATING EXPENSES	17,205,608	13,658,184	+3,547,424
Operating ratio	77.49	81.19*	−3.70
NET REVENUE FROM OPERATIONS	4,998,881	3,164,147	+1,834,733
Railway tax accruals	2,127,417	1,131,719	+995,698
Railway operating income	2,871,463	2,032,428	+839,035
Equipment rents—Net Cr.	1,990,758	1,727,756	+263,002
Joint facility rents—Net Cr.	33,003	2,214	+30,789
NET RAILWAY OPERATING INCOME	4,895,226	3,762,398	+1,132,827
Non-operating income	534,527	406,440	+128,086
GROSS INCOME	5,429,754	4,168,839	+1,260,914

Continued on next left-hand page

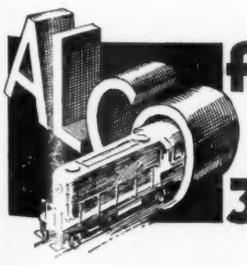


Five of these units were recently delivered to the Birmingham Southern.

1800 or 900 HORSEPOWER

These 900 H. P. Supercharged Diesel Locomotives are all equipped with full multiple-unit control. Two of these locomotives may be coupled together and operated from a single control position, thereby making an 1800 H. P. Transfer Locomotive. And in a few minutes time they can be disconnected, thereby making two 900 H. P. Switching Locomotives.

The Alco Diesel Locomotive has materially increased its flexibility and economy. For you now can get much more work out of the total horsepower bought.



AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET · NEW YORK · N·Y

Rent for leased roads	123,799	91,093	+32,706
Interest on funded debt	15,795	32,422	−16,626
TOTAL DEDUCTIONS FROM GROSS INCOME	838,505	923,465	−84,960
NET INCOME	$4,591,249	$3,245,373	+$1,345,875

* Restated for purposes of comparison.

SHEARWOOD.—*Abandonment.*—This road has applied to the Interstate Commerce Commission for authority to abandon all of its remaining line, extending from Nevils, Ga., to Egypt, 23.74 mi.

SOUTHERN.—*Annual Report.*—The 1936 annual report of this company shows net income, after interest and other charges, of $4,304,926, as compared with net deficit of $1,523,192 in 1935. Selected items from the income statement follow:

	1936	1935	Increase or Decrease
Average mileage operated	6,641.09	6,644.14	−.05
RAILWAY OPERATING REVENUES	$96,274,498	$82,885,097	+$13,389,401
Maintenance of way	11,273,741	10,059,063	+1,214,678
Maintenance of equipment	17,437,664	15,285,263	+2,152,401
Transportation	33,266,297	30,325,544	+2,940,753
TOTAL OPERATING EXPENSES	67,416,700	60,948,975	+6,467,725
Operating ratio	70.03	73.53	−3.50
NET REVENUE FROM OPERATIONS	28,857,797	21,936,121	+6,921,676
Railway tax accruals	5,892,303	5,067,977	+824,326
Hire of equipment	2,731,945	1,652,517	+1,079,428
Joint facility rents	935,274	925,097	+10,177
NET RAILWAY OPERATING INCOME	19,298,272	14,290,530	+5,007,742
Non-operating income	2,012,423	1,152,128	+860,295
GROSS INCOME	21,310,696	15,442,658	+5,868,038
Rent for leased roads	2,548,180	2,573,905	−25,725
Interest on funded debt	13,236,637	13,266,553	−29,916
NET INCOME	$4,304,926	*$1,523,192	+$5,828,118

* Deficit.

SOUTHERN PACIFIC.—*Acquisition.*—The El Paso & Southwestern, a wholly owned subsidiary of this company, has applied to the Interstate Commerce Commission for authority to acquire the railroad property of the Alamogordo & Sacramento Mountain and the El Paso & Northeastern.

SPOKANE, PORTLAND & SEATTLE.—*Equipment Trust Certificates.*—This company and the Great Northern and the Northern Pacific have applied to the Interstate Commerce Commission for authority to assume liability as joint and several guarantors of $1,200,000 of 2¾ per cent equipment trust certificates, maturing serially in 10 equal annual installments on July 1, from 1938 to 1947.

TEXAS & PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon that portion of its La Fourche branch extending from Donaldsonville, La., to Ratliff, 11.7 miles.

WESTERN PACIFIC.—*Annual Report.*—The 1936 annual report of this company shows net deficit, after interest and other charges, of $2,421,133, as compared with net deficit of $1,792,725 in 1935. Selected items from the income account follow:

	1936	1935	Increase or Decrease
Average mileage operated	1,794.12	1,786.64	+7.48
RAILWAY OPERATING REVENUES	$14,959,900	$12,907,071	+$2,052,828
Maintenance of way	3,109,799	2,369,169	+740,630
Maintenance of equipment	2,854,676	2,147,457	+707,218
Transportation	5,722,384	4,991,322	+731,062
TOTAL OPERATING EXPENSES	12,886,815	10,594,942	+2,291,873
Operating ratio	86.14	82.09	+4.05
NET REVENUE FROM OPERATIONS	2,073,084	2,312,129	−239,045
Railway tax accruals	948,609	678,877	+269,732
Railway operating income	1,124,474	1,626,175	−501,701
Equipment rents—Net	1,149,639	744,071	−405,567
Joint facility rents—Net	137,149	134,209	+2,940
Non-operating income	1,990,237	1,890,987	+99,250
GROSS INCOME	3,114,712	3,517,163	−402,451
Rent for leased roads and equipment	3,600	3,600	.....
Interest on funded debt	3,268,455	3,301,478	−33,022
TOTAL DEDUCTIONS FROM GROSS INCOME	5,535,845	5,309,888	+225,957
NET INCOME (Deficit)	$2,421,133	$1,792,725	−$628,408

WISCONSIN CENTRAL.—*Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has authorized this company and its receiver to assume liability for $2,500,000 of 3½ per cent equipment trust certificates, maturing in 20 equal semi-annual installments of $125,000 on July 1 from 1937 to 1947. The certificates will be delivered at par to the Minneapolis, St. Paul & Sault Ste. Marie, the vendor of the equipment.

Average Prices of Stocks and Bonds

	June 1	Last week	Last year
Average price of 20 representative railway stocks..	54.45	55.40	47.24
Average price of 20 representative railway bonds..	80.30	80.46	79.43

Dividends Declared

Alabama Great Southern. — Ordinary, $1.50, payable June 28 to holders of record June 7; Preferred, $1.50, semi-annually, payable August 16 to holders of record July 12.

Cincinnati, New Orleans & Texas Pacific. — $5.00, semi-annually; Extra, $2.50, both payable June 24 to holders of record June 10.

Dayton & Michigan.—8 Per Cent Preferred, $1.00, quarterly, payable July 6 to holders of record June 15.

Detroit, Hillsdale & Southwestern. — $2.00, semi-annually, payable July 6 to holders of record June 19.

Grand Rapids & Indiana.—$2.00, semi-annually, payable June 21 to holders of record June 10.

Lackawanna R. R. of New Jersey.—$1.00, payable July 1 to holders of record June 4.

Morris & Essex.—$1.75, payable July 1 to holders of record June 4.

New York, Lackawanna & Western.—$1.25, payable July 1 to holders of record June 11.

Railway Officers

EXECUTIVE

W. E. Hicks, executive assistant on the Minneapolis & St. Louis at Minneapolis, Minn., has resigned after 30 years' service in railway work, to become associated with the W. P. Tabin Company, Inc., Kansas City, Mo., general contractors. Mr. Hicks' headquarters will be at 1218 Olive street, St. Louis.

FINANCIAL, LEGAL AND ACCOUNTING

Claude A. Peterson, district adjuster for the Chicago, Milwaukee, St. Paul & Pacific at Chicago, has been appointed to the newly-created position of assistant general adjuster, with the same headquarters, and **A. W. Bigham,** district adjuster at Seattle, Wash., has been appointed assistant general adjuster, with the same headquarters, this also being a newly-created position.

OPERATING

C. P. Lockwood has been appointed superintendent of terminals of the Grand Trunk Western, at Port Huron, Mich., to succeed **W. D. Hall,** who has retired after many years of service with this company.

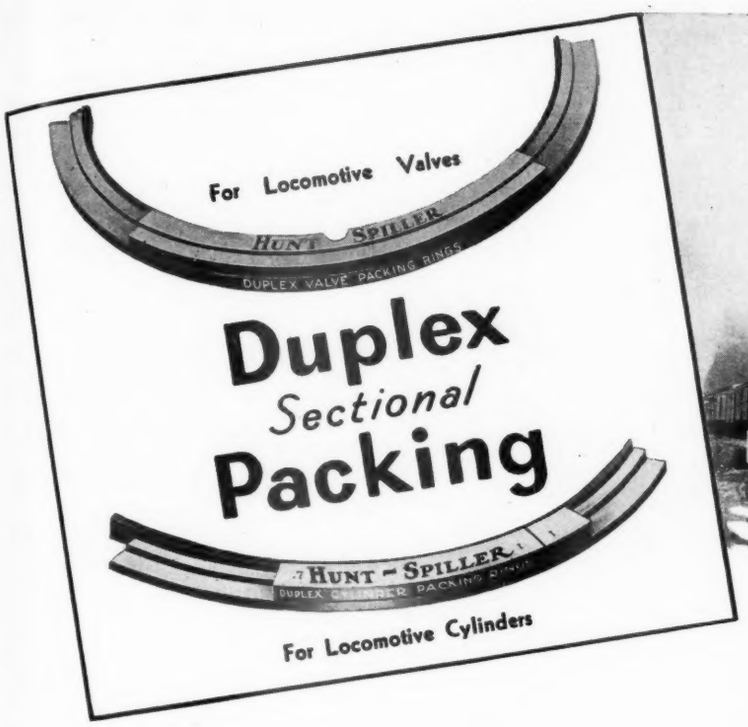
W. J. McLean has resumed duty as superintendent of the Kettle Valley division of the Canadian Pacific, with headquarters at Penticton, B. C., effective May 24, after a leave of absence on account of illness.

Arthur Davis, assistant to the general manager of the Wabash, has been appointed assistant general manager of this company, the Ann Arbor and the Manistique & Lake Superior, with headquarters as before at St. Louis, Mo.

A. M. Campbell, general inspector in the dining car department of the St. Louis Southwestern, with headquarters at Texarkana, Tex., has been appointed superintendent of dining cars, effective June 1, thereby succeeding to a portion of the duties of the late **Charles H. Jennings,** general freight and passenger agent.

Charles I. Fitzgerald, who has been appointed superintendent of the Washington-Alaska-Yukon division of the Railway Express Agency, Inc., with headquarters at Seattle, Wash., as reported in the *Railway Age* of May 15, was born on April 12, 1884, at Rochester, Minn. After a public school education he entered express service on April 1, 1905, with Wells Fargo & Company, serving as a driver, messenger and agent in Minnesota. In 1909 Mr. Fitzgerald was appointed a route agent in Montana and after two years in this position he was advanced to general agent with headquarters at Butte, Mont., later being transferred to Spokane, Wash. On July

Continued on next left-hand page



A PROVEN DEVICE

RELIABLE locomotive performance is assured when time tested material and devices are used in their construction.

HUNT-SPILLER Duplex Sectional Packing in valves and pistons fulfills these requirements, providing steam tight performance with high wear resisting qualities. It is made of uniform quality iron by the air furnace process and gives dependable service at low cost per mile.

Many modern locomotives are equipped with Duplex Sectional Packing. Why not equip yours and save on fuel and repair bills.

HSGI
Reg. U. S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
Parts Finished For Application
Dunbar Sectional Type Packing
Duplex Sectional Type Packing for Cylinders and Valves
(Duplex Springs for Above Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes

HUNT-SPILLER MFG. CORPORATION
V. W. Ellet Pres. & Gen. Mgr. / E. J. Fuller Vice-President

Office & Works
383 Dorchester Ave. South Boston, Mass.
Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P.Q.
Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

HUNT-SPILLER GUN IRON

Air Furnace

1, 1918, when the various express companies were consolidated to form the American Railway Express Company, Mr.

Charles I. Fitzgerald

Fitzgerald was appointed assistant general agent at Salt Lake City, Utah, being transferred to Denver, Colo., in 1920, where he remained, following the formation of the Railway Express Agency in 1929. In 1932 he returned to Salt Lake City as general agent, being transferred to Portland, Ore., on March 1, 1934, and thence to Denver, Colo., on July 1, 1935. He was located at the latter point at the time of his recent promotion to superintendent at Seattle.

TRAFFIC

J. P. Gilman, commercial agent of the Louisville & Nashville at Macon, Ga., has been promoted to general agent at Anniston, Ala., to succeed **T. P. Washburn,** who has been appointed division freight agent at Pensacola, Fla., to replace **F. S Griffin,** deceased.

C. D. Bowman, district passenger agent on the St. Louis Southwestern at Memphis, Tenn., has been promoted to general passenger agent, effective June 1, with headquarters at Tyler, Tex., in which capacity he succeeds to a portion of the duties of the late **Charles H. Jennings,** whose title was general freight and passenger agent.

MECHANICAL

John J. O'Brien, superintendent of the car department of the Terminal Railroad Association of St. Louis, effective June 1, has at his own request been relieved of active supervision of car department matters and is appointed general car inspector. The duties relinquished by Mr. O'Brien will be assumed by **Frank Ross,** superintendent of motive power and equipment.

ENGINEERING AND SIGNALING

E. J. Cullen, division engineer of the Lehigh Valley, with headquarters at Buffalo, N. Y., has been appointed chief engineer, with headquarters at Bethlehem, Pa., succeeding **G. T. Hand,** who has been appointed consulting engineer.

Richard I. Gloster, office engineer of the Western Pacific, has also assumed the duties of valuation engineer, to succeed **C. H. Byers,** deceased. Mr. Gloster's office is at San Francisco, Cal.

T. H. Kearton, superintendent of signals of the Chicago Great Western with headquarters at Chicago, has been appointed also superintendent of telegraph, to succeed **G. O. Perkins,** who has retired.

SPECIAL

W. C. Barrett has been appointed to the newly-created position of chief of personnel of the Lehigh Valley, with headquarters at Bethlehem, Pa.

OBITUARY

William A. Russell, who had been passenger traffic manager of the Louisville & Nashville for 26 years, died on May 26 after an illness of three days.

Charles H. Jennings, general freight and passenger agent of the St. Louis Southwestern, with headquarters at Tyler, Tex., died on May 18.

C. H. Temple, who retired on September 1, 1928, as chief of motive power and rolling stock of the Canadian Pacific, with headquarters at Montreal, Que., died on May 29 in his 75th year.

John F. Bon, freight traffic manager of the Western Pacific with headquarters at San Francisco, Cal., died on May 26 in his home at Oakland, Cal., following a brief illness. A native of South Dakota, Mr. Bon obtained his first railroad experience as a stenographer for the Union Pacific at Portland, Ore. In 1910 he entered the service of the Western Pacific at San Francisco as secretary to the freight traffic manager. After occupying various positions in the traffic department he became connected with the James J. Hill steamship interests in San Francisco, where he remained during 1915 and 1916,

John F. Bon

then returning to the Western Pacific during the latter part of federal control of the railroads. He was advanced to chief clerk in the general freight department in 1920, and in 1923 was further promoted to assistant general freight agent. On November 1, 1929, Mr. Bon was promoted to general freight agent and thence to assistant freight traffic manager on July 1, 1930. He had held the position of freight traffic manager since April 16, 1931.

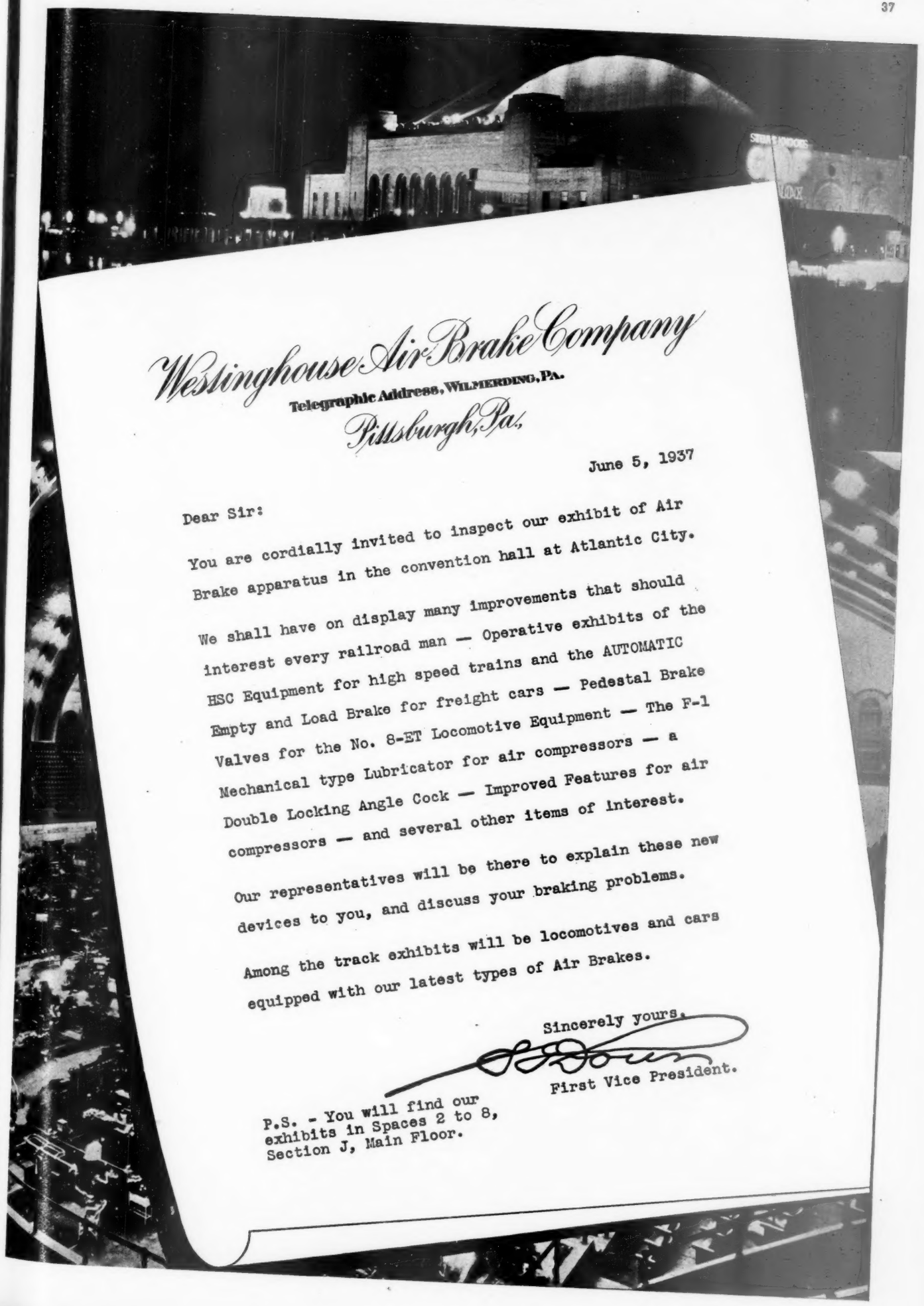
Eldred D. Toye, general storekeeper of the Central region of the Canadian National with headquarters at Toronto, Ont., died on May 20, at his home following a brief illness. Born in Dalston, Ont., on April 27, 1891, Mr. Toye first became connected with the stores department of the Canadian National in 1909 as a storeman at Parry Sound, Ont. Two years later he was sent to Toronto as chief clerk and in 1914, he was appointed acting storekeeper at Limoilou, Que. On March 1, 1915, he returned to Toronto as storekeeper and after two months in that capacity he was promoted to division storekeeper at Trenton, Ont., returning to Toronto in the same capacity in 1916. During the war, Mr. Toye enlisted for overseas service with the Canadian Railway troops. Receiving his commission on the field, he was subsequently promoted to cap-

Eldred D. Toye

tain and battalion adjutant. Upon his return from military service in 1919, he resumed the position of division storekeeper at Toronto, being transferred to Leaside, Ont., later in the same year. Coincident with the amalgamation of the Canadian National with the Grand Trunk System, Mr. Toye was made assistant general storekeeper of the Central region. On June 1, 1924, he was further advanced to general storekeeper of the same region, which position he held until his death. At the time of his death, Mr. Toye was a member of the General committee of the Purchases and Stores division of the Association of American Railroads.

UNLIMITED TRAVEL TICKETS, good for a period of fifteen days throughout the system are the latest offering of the Polish State Railways to tourists. Similar in nature to the weekly "passes" of street transit companies in the United States, and an extension of the British "limited area unlimited-mileage rate offering, tickets for first class cost $24, for second class, $18, and for third class, $12.

Table of Freight Operating Statistics appears on next left-hand page



Westinghouse Air Brake Company

Telegraphic Address, WILMERDING, PA.

Pittsburgh, Pa.

June 5, 1937

Dear Sir:

You are cordially invited to inspect our exhibit of Air Brake apparatus in the convention hall at Atlantic City.

We shall have on display many improvements that should interest every railroad man — Operative exhibits of the HSC Equipment for high speed trains and the AUTOMATIC Empty and Load Brake for freight cars — Pedestal Brake Valves for the No. 8-ET Locomotive Equipment — The F-1 Mechanical type Lubricator for air compressors — a Double Locking Angle Cock — Improved Features for air compressors — and several other items of interest.

Our representatives will be there to explain these new devices to you, and discuss your braking problems.

Among the track exhibits will be locomotives and cars equipped with our latest types of Air Brakes.

Sincerely yours,

First Vice President.

P.S. - You will find our exhibits in Spaces 2 to 8, Section J, Main Floor.

Freight Operating Statistics of Large Steam Railways—Selected Items for the Month of March,

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross, excluding locomotives and tenders	Ton-miles (*thousands*): Net, revenue and non-revenue	Number of road locomotives on line: Serviceable: Not stored	Serviceable: Stored	Unserviceable	Per cent unserviceable
New England Region:												
Boston & Albany.....1937	374	159,628	164,575	10,594	3,568	68.9	193,324	70,510	62	7	23	25.0
1936	373	130,198	135,682	10,224	3,100	70.4	159,126	55,103	59	1	32	34.8
Boston & Maine.....1937	1,941	312,280	353,143	31,560	11,333	69.3	632,575	237,917	128	..	141	52.4
1936	1,972	265,699	308,038	26,755	9,144	71.0	496,510	185,107	141	..	158	52.8
N. Y., New Hav. & Hartf..1937	2,011	373,294	466,247	28,410	13,538	69.8	714,843	270,444	184	9	84	28.9
1936	2,031	353,685	435,614	23,437	11,686	68.3	616,624	222,957	181	4	98	34.7
Great Lakes Region:												
Delaware & Hudson.....1937	830	254,716	349,480	42,261	9,384	67.6	581,031	286,701	110	113	32	12.5
1936	830	199,975	270,415	32,055	6,789	67.3	411,493	194,168	93	153	39	13.7
Del., Lack. & Western.....1937	983	411,248	459,416	62,586	14,043	70.1	812,120	335,359	127	16	86	37.6
1936	992	351,371	392,103	50,970	11,354	68.0	645,554	246,514	155	2	86	35.4
Erie (incl. Chi. & Erie)...1937	2,284	755,394	801,856	45,638	33,321	69.4	1,969,025	820,139	239	29	205	43.3
1936	2,298	707,035	744,009	45,661	29,204	65.9	1,717,590	644,809	207	39	232	48.5
Grand Trunk Western.....1937	1,027	315,198	324,505	4,923	9,084	65.2	537,914	197,842	85	..	51	37.5
1936	1,027	278,859	283,015	2,345	7,338	63.5	441,424	158,613	80	..	60	42.9
Lehigh Valley 1937	1,303	397,139	433,881	52,325	14,859	68.8	905,893	401,031	144	13	117	42.7
1936	1,318	390,209	416,353	45,506	12,636	65.2	759,838	297,677	144	..	163	53.1
New York Central.....1937	10,790	3,177,986	3,373,662	208,634	109,533	61.6	7,124,793	3,101,604	1,001	93	398	26.7
1936	10,789	2,823,192	2,980,147	187,511	91,377	59.3	5,879,072	2,358,650	898	62	551	36.5
N. Y., Chicago & St. Louis.1937	1,672	576,086	585,569	8,801	19,921	66.3	1,198,588	483,775	170	6	19	9.7
1936	1,674	520,559	524,351	8,281	17,226	63.1	1,036,655	385,100	154	12	23	12.2
Pere Marquette 1937	2,081	437,542	455,143	5,635	12,126	63.0	759,389	290,843	122	2	27	17.9
1936	2,081	417,388	430,796	8,196	10,300	60.2	663,252	248,226	116	2	38	24.4
Pittsburgh & Lake Erie....1937	234	109,192	115,357	.....	4,189	59.9	348,988	193,081	40	2	19	31.1
1936	234	66,860	69,311	.....	2,390	54.5	206,917	109,011	35	4	32	45.1
Wabash 1937	2,434	663,755	679,968	14,271	21,048	67.4	1,217,112	452,216	148	25	122	41.4
1936	2,435	599,377	610,196	13,247	18,038	63.8	1,058,919	361,889	136	20	152	49.4
Central Eastern Region:												
Baltimore & Ohio.....1937	6,351	1,735,094	2,123,127	233,079	54,009	65.6	3,673,988	1,760,329	749	14	514	40.3
1936	6,367	1,405,087	1,723,651	179,857	40,953	62.2	2,779,079	1,242,028	650	25	630	48.3
Central of New Jersey....1937	681	174,209	195,358	39,480	5,889	62.7	401,501	195,779	64	9	66	47.5
1936	681	143,729	162,621	31,670	4,459	60.2	296,550	134,803	55	10	90	58.1
Chicago & Eastern Illinois.1937	931	205,663	207,507	3,303	5,769	66.3	370,928	170,154	54	..	48	47.1
1936	931	185,945	186,755	3,137	4,458	62.7	287,891	121,317	57	..	53	48.2
Elgin, Joliet & Eastern....1937	435	133,327	136,677	2,980	3,536	60.1	280,994	143,762	66	..	17	20.5
1936	434	96,293	98,593	2,015	2,521	60.3	193,589	95,459	58	..	29	33.3
Long Island 1937	393	34,095	35,236	17,152	348	51.8	26,684	10,335	35	5	11	21.6
1936	393	29,557	30,195	15,850	289	51.6	22,021	8,277	31	4	16	31.4
Pennsylvania System 1937	10,028	3,542,935	4,075,368	466,426	125,524	63.3	8,522,021	3,886,045	1,582	244	526	22.4
1936	10,034	2,801,183	3,214,453	368,429	92,806	61.4	6,311,323	2,744,469	1,421	79	892	37.3
Reading 1937	1,445	493,658	543,600	66,651	14,615	65.4	1,059,026	538,619	220	30	88	26.0
1936	1,449	399,026	435,280	50,534	10,739	60.1	769,532	358,541	196	76	84	23.6
Pocahontas Region:												
Chesapeake & Ohio.....1937	3,050	982,924	1,046,068	53,185	46,070	58.2	3,847,982	2,133,055	409	21	118	21.5
1936	3,050	823,745	869,475	33,620	33,355	53.4	2,815,913	1,467,137	393	62	75	14.2
Norfolk & Western.....1937	2,181	772,472	838,092	49,453	32,354	59.3	2,723,866	1,469,887	271	45	42	11.7
1936	2,145	636,025	673,574	34,736	24,574	57.9	2,036,767	1,048,029	238	80	59	15.6
Southern Region:												
Atlantic Coast Line.....1937	5,076	697,692	699,754	9,861	16,823	64.9	896,668	323,097	254	15	104	27.9
1936	5,101	640,532	641,774	8,343	14,042	60.3	784,963	261,668	249	21	143	34.6
Central of Georgia.....1937	1,886	288,686	292,326	4,420	6,842	73.8	370,193	151,054	100	..	23	18.7
1936	1,886	262,174	265,668	3,424	5,583	71.2	309,403	119,044	92	..	32	25.8
Illinois Central (incl. Y. 1937	6,556	1,832,001	1,848,622	36,528	44,843	64.7	2,879,436	1,231,236	670	5	193	22.2
& M. V.).....1936	6,566	1,583,910	1,596,689	29,820	36,857	61.6	2,382,054	954,599	621	10	224	26.2
Louisville & Nashville.....1937	4,932	1,354,697	1,474,926	37,864	31,586	60.2	2,266,026	1,108,299	391	2	175	30.8
1936	5,007	1,042,153	1,123,568	27,089	22,966	58.2	1,608,644	730,193	316	30	227	39.6
Seaboard Air Line.....1937	4,295	601,677	632,842	5,567	16,063	67.8	924,715	350,764	241	..	69	22.3
1936	4,295	518,229	532,148	4,753	13,019	66.0	747,004	265,757	214	..	114	34.8
Southern 1937	6,596	1,481,676	1,506,885	23,169	34,289	68.3	1,966,837	826,887	490	14	261	34.1
1936	6,596	1,218,279	1,235,410	20,211	28,186	68.5	1,535,754	598,837	439	38	321	40.2
Northwestern Region:												
Chicago & North Western..1937	8,402	1,002,340	1,048,798	31,254	26,456	63.4	1,653,639	621,228	341	123	244	34.5
1936	8,355	1,075,804	1,146,538	30,321	25,847	61.5	1,602,486	556,383	362	123	260	34.9
Chicago Great Western....1937	1,450	280,297	281,285	9,910	8,089	66.3	480,765	184,921	57	1	31	34.8
1936	1,458	245,365	245,879	15,097	7,229	62.5	443,389	163,009	75	1	13	14.6
Chi., Milw., St. P. & Pac..1937	11,107	1,416,691	1,526,898	66,668	37,881	62.3	2,420,773	989,070	460	98	114	17.0
1936	11,115	1,356,120	1,451,277	63,801	35,193	60.6	2,262,062	893,359	456	101	139	20.0
Chi., St. P., Minneap. & Om.1937	1,636	218,665	225,670	10,941	4,899	67.7	294,302	120,752	81	43	20	13.9
1936	1,637	227,399	241,094	11,742	4,669	63.2	293,068	118,576	68	39	36	25.2
Great Northern 1937	7,997	764,322	766,551	32,611	24,612	64.9	1,535,270	633,728	355	45	173	30.2
1936	8,093	745,197	744,281	27,081	22,946	64.1	1,446,920	578,642	348	69	181	30.3
Minneap., St. P. & S. St. M.1937	4,278	404,510	412,318	4,976	9,300	66.8	535,672	213,441	122	..	34	21.8
1936	4,273	383,305	391,671	5,736	8,407	67.8	489,099	198,127	120	..	38	24.1
Northern Pacific 1937	6,429	737,789	814,436	42,354	23,575	68.2	1,400,041	601,089	367	12	85	18.2
1936	6,423	639,810	701,484	49,318	19,714	72.2	1,135,712	492,124	326	17	102	22.9
Central Western Region:												
Alton 1937	912	221,518	229,589	2,999	5,032	62.9	320,932	121,406	78	..	19	19.6
1936	928	198,672	201,182	1,807	4,280	61.4	275,516	104,635	71	1	30	29.4
Atch., Top. & S. Fe (incl. 1937	13,578	1,875,324	2,027,072	95,583	52,648	64.9	3,241,475	1,149,115	560	51	334	35.3
G.C. & S.F. & P.&S.F.).1936	13,235	1,700,723	1,837,567	75,246	48,064	66.7	2,833,314	971,569	527	99	357	36.3
Chicago, Burl. & Quincy...1937	8,934	1,387,251	1,441,183	48,156	39,285	64.2	2,364,237	1,028,966	463	..	81	14.9
1936	8,969	1,342,494	1,404,915	48,415	34,210	60.7	2,069,388	837,989	445	2	97	17.8
Chi., Rock I. & Pac. (incl. 1937	8,129	1,245,738	1,271,727	10,094	29,036	64.5	1,757,503	667,170	418	12	214	33.2
Chi., Rock I. & Gulf)...1936	8,176	1,213,099	1,241,341	6,508	26,807	61.3	1,645,706	582,235	374	5	341	47.4
Denv. & Rio Gr. Western..1937	2,576	320,409	354,464	37,713	7,783	67.8	493,041	218,923	174	7	22	10.8
1936	2,584	254,350	278,967	27,439	6,607	69.2	396,899	168,642	153	18	42	19.7
Southern Pac.—Pac. Lines.1937	8,614	1,660,704	1,832,325	231,582	53,277	64.4	3,270,371	1,154,077	568	68	149	19.0
1936	8,596	1,306,143	1,418,458	159,753	42,559	63.4	2,652,222	893,676	447	84	248	31.8
Union Pacific 1937	9,918	1,952,603	2,038,855	125,018	60,711	65.9	3,666,761	1,387,300	589	51	219	25.5
1936	9,829	1,661,410	1,726,137	105,713	51,879	64.9	3,105,129	1,103,362	561	73	247	28.0
Southwestern Region:												
Mo.-Kansas-Texas Lines ..1937	3,282	420,182	426,335	7,255	11,475	62.0	705,328	253,926	110	18	76	37.3
1936	3,282	379,457	384,675	6,273	10,145	60.7	619,297	208,886	101	25	81	39.1
Missouri Pacific 1937	7,143	1,407,332	1,449,571	30,816	40,673	63.0	2,592,456	979,730	367	80	99	18.1
1936	7,201	1,176,986	1,217,426	26,076	33,363	62.3	2,092,102	770,134	316	96	139	25.2
St. Louis-San Francisco....1937	4,888	808,444	815,662	12,209	16,926	65.0	1,038,466	427,898	271	54	85	20.7
1936	4,888	682,326	686,923	8,820	14,662	62.9	893,529	347,118	269	103	71	16.0
St. Louis Southw. Lines...1937	1,733	375,934	378,701	5,191	9,452	62.5	564,643	194,604	116	2	8	6.3
1936	1,768	277,115	281,001	3,656	7,867	62.2	467,867	157,213	100	7	11	9.3
Texas & New Orleans.....1937	4,415	671,548	671,967	11,245	16,696	65.0	1,037,928	382,975	219	38	29	10.1
1936	4,415	555,660	556,381	4,412	13,483	63.0	850,328	299,666	198	40	58	19.6
Texas & Pacific.....1937	1,944	350,389	350,389	1,711	10,242	61.1	650,086	223,098	81	42	81	39.7
1936	1,945	286,443	286,443	1,457	8,623	58.6	546,505	173,855	61	61	98	44.5

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

1937, Compared with March, 1936, for Roads with Annual Operating Revenues Above $25,000,000

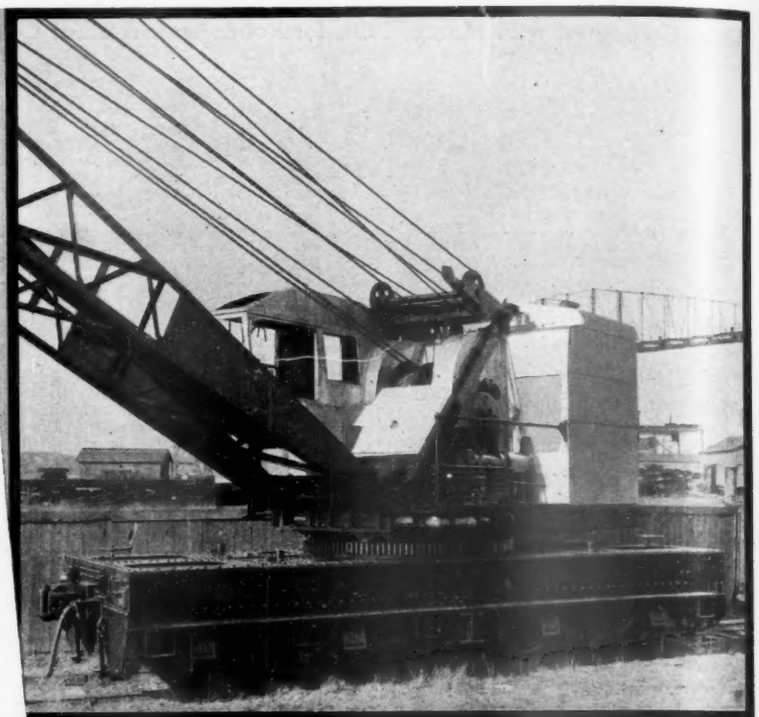
Region, road, and year	Number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
New England Region:													
Boston & Albany	1937	2,334	5,167	7,501	21.3	20,904	1,217	444	19.8	322	23.7	6,088	167	65.2
	1936	2,289	5,104	7,393	21.0	19,655	1,229	426	17.8	242	19.3	4,765	166	54.7
Boston & Maine	1937	7,512	9,548	17,060	12.0	27,251	2,037	766	21.0	458	31.5	3,954	106	49.9
	1936	8,066	13,465	21,531	11.4	23,259	1,891	705	20.2	310	21.5	3,028	114	39.1
N. Y., New Hav. & Hartf.	1937	9,286	14,398	23,684	11.0	27,414	1,947	737	20.0	377	27.0	4,338	110	65.1
	1936	13,006	13,652	26,658	17.0	24,808	1,791	648	19.1	274	21.1	3,541	114	51.7
Great Lakes Region:													
Delaware & Hudson	1937	6,539	4,571	11,110	4.2	31,595	2,294	1,132	30.6	829	40.1	11,139	114	52.7
	1936	9,937	3,008	12,945	3.6	29,085	2,074	979	28.6	532	27.6	7,539	115	37.1
Del., Lack. & Western	1937	11,654	8,302	19,956	16.6	33,289	1,997	825	23.9	545	32.6	11,009	138	78.4
	1936	14,554	5,902	20,456	15.8	30,408	1,867	713	21.7	383	26.0	8,018	141	64.3
Erie (incl. Chi. & Erie)	1937	16,116	19,601	35,717	4.4	43,071	2,629	1,095	24.6	733	42.9	11,582	105	64.3
	1936	16,703	14,391	31,094	5.3	40,502	2,443	917	22.1	635	43.6	9,053	106	59.0
Grand Trunk Western	1937	4,628	9,627	14,255	14.1	32,241	1,721	633	21.8	467	32.9	6,213	102	85.2
	1936	3,888	7,171	11,059	15.3	30,578	1,599	575	21.6	435	31.7	4,981	110	71.7
Lehigh Valley	1937	10,599	12,183	22,782	6.3	40,080	2,323	1,028	27.0	578	31.1	9,925	126	59.7
	1936	12,159	7,863	20,022	9.3	33,932	1,990	780	23.6	449	29.2	7,285	134	52.8
New York Central	1937	86,538	77,709	164,247	13.2	36,929	2,266	986	28.3	615	35.2	9,272	110	86.7
	1936	104,181	64,195	168,376	18.2	34,255	2,112	847	25.8	488	28.8	7,052	113	75.4
N. Y., Chicago & St. Louis	1937	5,465	9,209	14,674	2.4	36,914	2,088	843	24.3	1,036	64.4	9,335	97	105.7
	1936	6,384	7,140	13,524	3.4	35,060	1,997	742	22.4	848	60.1	7,420	100	97.9
Pere Marquette	1937	6,996	10,036	17,032	2.8	28,168	1,738	666	24.0	595	39.4	4,508	98	107.2
	1936	8,478	6,510	14,988	4.7	26,090	1,597	598	24.1	477	32.9	3,847	106	101.5
Pittsburgh & Lake Erie	1937	8,456	11,683	20,139	29.8	44,064	3,207	1,774	46.1	300	10.9	26,637	94	63.7
	1936	13,709	12,295	26,004	40.3	40,343	3,110	1,638	45.6	140	5.6	15,039	102	31.5
Wabash	1937	9,168	11,609	20,777	3.9	37,572	1,856	690	21.5	713	49.2	5,993	114	78.9
	1936	10,191	8,957	19,148	4.0	35,177	1,789	611	20.1	577	45.0	4,795	117	68.7
Central Eastern Region:													
Baltimore & Ohio	1937	51,066	33,614	84,680	14.1	27,353	2,151	1,031	32.6	648	30.3	8,941	150	63.8
	1936	65,001	27,883	92,884	16.8	25,169	2,012	899	30.3	437	23.2	6,293	152	50.3
Central of New Jersey	1937	9,348	11,444	20,792	25.7	28,026	2,400	1,170	33.2	309	14.8	9,271	141	69.5
	1936	11,012	8,439	19,451	33.6	24,678	2,158	981	30.2	205	11.3	6,384	157	56.0
Chicago & Eastern Illinois	1937	2,215	4,537	6,752	2.8	30,681	1,822	836	29.5	796	40.7	5,898	124	70.4
	1936	3,379	3,036	6,415	6.6	27,642	1,561	658	27.2	588	34.5	4,202	135	58.6
Elgin, Joliet & Eastern	1937	8,088	8,163	16,251	4.5	16,843	2,180	1,116	40.7	295	12.1	10,666	124	81.7
	1936	8,338	3,971	12,309	4.9	17,246	2,061	1,016	37.9	250	11.0	7,094	123	54.2
Long Island	1937	364	3,565	3,929	2.2	5,992	798	309	29.7	92	6.0	849	327	49.5
	1936	651	3,486	4,137	2.1	5,642	762	287	28.6	65	4.4	680	325	42.1
Pennsylvania System	1937	172,071	70,263	242,334	17.4	35,254	2,453	1,119	31.0	504	25.7	12,501	123	70.0
	1936	197,709	69,584	267,293	16.1	30,057	2,310	1,004	29.6	337	18.5	8,823	128	53.9
Reading	1937	20,584	16,952	37,536	5.4	27,215	2,150	1,093	36.9	461	19.1	12,027	136	66.3
	1936	28,704	12,780	41,484	9.1	23,149	1,936	902	33.4	289	14.4	7,982	156	49.6
Pocahontas Region:													
Chesapeake & Ohio	1937	39,191	16,500	55,691	1.0	53,696	3,984	2,208	46.3	1,292	47.9	22,560	79	71.2
	1936	43,691	10,515	54,206	1.3	47,961	3,474	1,810	44.0	1,006	42.8	15,518	86	60.4
Norfolk & Western	1937	27,336	6,029	33,365	1.4	51,917	3,564	1,923	45.4	1,376	51.1	21,743	104	85.9
	1936	34,109	5,486	39,595	1.9	46,576	3,234	1,664	42.6	965	39.1	15,762	108	66.1
Southern Region:													
Atlantic Coast Line	1937	15,897	13,742	29,639	19.9	21,523	1,289	464	19.2	358	28.7	2,053	113	67.5
	1936	20,199	9,701	29,900	18.9	20,984	1,230	410	18.6	284	25.3	1,655	115	54.3
Central of Georgia	1937	2,782	5,897	8,679	1.7	22,844	1,287	525	22.1	572	35.1	2,584	125	85.3
	1936	3,820	3,273	7,093	6.7	21,306	1,191	458	21.3	535	35.7	2,036	126	77.1
Illinois Central (incl. Y. & M. V.)	1937	27,555	24,305	51,860	19.2	26,354	1,586	678	27.5	736	41.4	6,058	138	74.5
	1936	39,014	18,906	57,920	31.7	25,314	1,514	607	25.9	512	32.1	4,690	141	65.2
Louisville & Nashville	1937	29,671	12,798	42,469	15.9	24,287	1,677	820	35.1	808	38.2	7,249	135	91.5
	1936	39,761	8,802	48,563	22.0	23,550	1,548	703	31.8	524	28.4	4,704	141	68.5
Seaboard Air Line	1937	8,904	10,519	19,423	1.9	24,775	1,561	592	21.8	591	39.9	2,634	125	73.4
	1936	9,542	6,800	16,342	2.2	23,744	1,463	520	20.4	537	39.9	1,996	122	57.1
Southern	1937	19,202	24,399	43,601	11.3	21,470	1,337	562	24.1	611	37.1	4,044	153	67.1
	1936	22,237	18,175	40,412	13.8	20,584	1,267	494	21.2	473	32.5	2,929	155	53.6
Northwestern Region:													
Chicago & North Western	1937	33,479	22,243	55,722	5.8	25,585	1,690	635	23.5	361	24.2	2,385	130	53.8
	1936	38,054	19,902	57,956	8.0	22,017	1,495	519	21.5	277	20.9	2,148	134	54.3
Chicago Great Western	1937	1,822	4,495	6,317	2.7	30,119	1,716	660	22.9	890	58.7	4,113	140	112.6
	1936	1,664	3,445	5,109	2.7	27,790	1,809	665	22.6	771	54.7	3,607	142	101.5
Chi., Milw., St. P. & Pac.	1937	39,478	22,771	62,249	2.5	27,255	1,716	701	26.1	512	31.5	2,873	132	83.1
	1936	43,458	18,383	61,841	3.3	25,312	1,677	662	25.4	433	28.2	2,593	130	76.8
Chi., St. P., Minneap. & Om.	1937	4,026	4,559	8,585	8.5	18,246	1,360	558	24.6	450	27.0	2,381	115	58.6
	1936	3,496	4,813	8,309	8.6	16,384	1,300	526	25.4	393	24.5	2,337	128	61.2
Great Northern	1937	35,312	12,787	48,099	7.5	29,882	2,019	834	25.7	429	25.7	2,556	128	49.9
	1936	37,860	11,097	48,957	9.4	27,651	1,951	780	25.2	387	24.0	2,307	132	47.1
Minneap., St. P. & S. St. M.	1937	11,446	5,274	16,720	5.0	20,842	1,333	531	23.0	407	26.6	1,610	111	89.5
	1936	12,047	4,168	16,215	5.3	19,600	1,285	521	23.6	383	23.9	1,496	113	84.7
Northern Pacific	1937	25,961	7,454	33,415	7.6	29,843	1,906	818	25.5	582	33.5	3,016	149	64.9
	1936	27,894	5,206	33,100	12.1	26,994	1,781	772	25.0	482	26.8	2,471	159	59.0
Central Western Region:													
Alton	1937	2,400	6,257	8,657	24.8	33,437	1,453	550	24.1	464	30.6	4,296	123	81.4
	1936	2,330	6,457	8,787	24.2	32,081	1,392	528	24.4	383	25.5	3,636	103	67.8
Atch., Top. & S. Fe (incl. G.C. & S.F. & P.&S.F.)	1937	60,697	16,220	76,917	8.7	32,642	1,732	614	21.8	484	34.2	2,730	128	76.2
	1936	65,525	12,780	78,305	12.2	31,566	1,668	572	20.2	399	29.6	2,368	125	66.4
Chicago, Burl. & Quincy	1937	23,880	18,087	41,967	6.6	29,885	1,713	746	26.2	785	46.7	3,715	126	93.8
	1936	27,984	14,609	42,593	8.4	26,701	1,548	627	24.5	621	41.7	3,014	132	90.6
Chi., Rock I. & Pac. (incl. Chi., Rock I. & Gulf)	1937	19,184	15,595	34,779	7.3	25,304	1,414	537	23.0	624	42.1	2,647	142	66.6
	1936	25,037	12,095	37,132	13.0	23,710	1,362	482	21.7	480	36.1	2,297	143	58.8
Denv. & Rio Gr. Western	1937	11,295	3,864	15,159	4.9	24,682	1,544	686	28.1	465	24.4	2,741	169	68.4
	1936	12,924	3,157	16,081	6.2	25,081	1,567	666	25.5	350	19.8	2,105	164	50.4
Southern Pac.—Pac. Lines	1937	31,714	30,144	61,858	6.3	31,562	1,982	699	21.7	580	41.6	4,322	114	90.3
	1936	32,966	23,600	56,566	9.7	33,234	2,044	689	21.0	512	38.5	3,354	109	69.1
Union Pacific	1937	36,481	21,509	57,990	10.8	38,612	1,887	714	22.9	770	51.1	4,512	127	84.3
	1936	39,439	16,836	56,275	15.0	38,587	1,877	667	21.3	627	45.4	3,621	129	67.0
Southwestern Region:													
Mo.-Kansas-Texas Lines	1937	3,402	6,254	9,656	2.4	30,949	1,680	605	22.1	852	62.0	2,496	94	72.5
	1936	4,682	5,087	9,769	3.2	30,393	1,633	551	20.6	699	56.0	2,053	92	65.9
Missouri Pacific	1937	12,485	26,176	38,661	2.4	32,752	1,854	701	24.1	811	53.4	4,424	119	94.1
	1936	15,023	18,618	33,641	3.5	31,830	1,783	656	23.1	699	48.5	3,450	124	78.6
St. Louis-San Francisco	1937	14,561	8,450	23,011	7.5	24,820	1,288	531	25.3	595	36.2	2,824	143	69.5
	1936	18,830	7,381	26,211	6.2	24,619	1,312	510	23.7	448	30.1	2,291	140	53.8
St. Louis Southw. Lines	1937	2,354	4,431	6,785	3.1	27,775	1,507	519	20.6	914	71.1	3,622	102	106.2
	1936	2,968	2,983	5,951	4.5	31,179	1,691	568	20.0	825	66.3	2,869	93	80.6
Texas & New Orleans	1937	6,415	14,627	21,042	6.7	27,927	1,558	575	22.9	595	39.9	2,798	91	81.8
	1936	7,198	12,561	19,759	7.4	27,783	1,539	542	22.2	498	35.6	2,189	85	64.3
Texas & Pacific	1937	1,847	6,268	8,115	2.5	32,646	1,861	639	21.8	885	66.5	3,702	90	58.9
	1936	2,365	5,213	7,578	3.5	31,007	1,914	609	20.2	776	65.6	2,883	90	46.2

Cranes, too, Have Changed

Compare a 10-to-15-year old automobile with one of the 1937 models. Then do the same with this new Industrial Brownhoist and the crane you are now using. Yes, cranes have been improved a lot in the past few years — in appearance, in power, and in efficiency.

This No. 8 Industrial Brownhoist Diesel will give you 25% additional operating time each day, save real money on fuel costs, travel (at sustained speeds) up to 15 miles per hour and is easily operated by one man.

If you haven't looked into the profit angle of a new Industrial Brownhoist, let us make a cost comparison for you. There is no obligation, of course, but we warn you, the figures will present a hard-to-beat argument.



INDUSTRIAL BROWNHOIST

GENERAL OFFICES: BAY CITY, MICHIGAN

NEW YORK, PHILADELPHIA, CLEVELAND, CHICAGO

MAGNUS METAL CORPORATION

Journal Bearings

AND

Bronze Engine Castings

New York Chicago

FOR DURABILITY AND PERMANENCE USE OKONITE and MANSON TAPES

The word OKONITE or MANSON on a roll of tape means that under all manner of conditions, in every kind of weather and service, these tapes stand the siege of time. Day in and day out, year in and year out, these tapes last. They last, in fact, just as long as the insulation on the wire itself. The lifetime of a splice made with OKONITE and MANSON Tape is, therefore, equal to the lifetime of the wire. Durability, permanence — factors of true economy in the maintenance of your lines — are thus assured when you specify:

THE OKONITE COMPANY

Founded 1878

HAZARD INSULATED WIRE WORKS DIVISION

THE OKONITE-CALLENDER CABLE COMPANY, INC.

EXECUTIVE OFFICE: PASSAIC, N. J.

New York Boston Seattle Buffalo Detroit St. Louis Philadelphia
Atlanta Los Angeles Pittsburgh Chicago Washington Dallas San Francisco
Factories: Passaic, N. J. Wilkes-Barre, Pa. Paterson, N. J.